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Trade Policies in Sub-Saharan Africa

Consistency with Domestic Policies and Implications for Sustainable and Inclusive Agricultural Development

Johanes Agbahey, Harald Grethe, Harvey Bradford, Sisay Lelissa Negeri

June 2017

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The Centre for Rural Development (SLE) is affiliated to the Albrecht Daniel Thaer Institute for Agricultural and Horticultural Sciences in the Faculty of Life Sciences at the Humboldt-Universität zu Berlin. Its work focuses on four strands: international cooperation for sustainable development as a post-master degree course, training courses for international specialists in the field of international cooperation, applied research, and consultancy services for universities and organisations.

The objective of the research project "Towards a Socially Inclusive and Environmentally Sustainable Rural Transformation in Africa" is to identify strategies, instruments and measures that will help to forge a more socially inclusive and sustainable rural transformation in sub-Saharan Africa. The project itself is a constitutive component of the Special Initiative ONE WORLD, NO HUNGER financed by the Federal Ministry for Economic Cooperation and Development (BMZ).

The views and opinions expressed in this Discussion Paper are those of the authors and do not necessarily reflect the official position of the BMZ and views of the SLE.

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Abstract

Development of the agricultural sector in sub-Saharan Africa is driven by, among other factors, policy frameworks in place. Trade policy, in particular, can play a role in achieving the overarching objectives of an ecologically sustainable, socially inclusive, and competitive agricultural sector. This paper reviews the trade policies of Benin, Ethiopia and Zambia, assessing their effects on agricultural-sector development. The consistency between trade policies and other policy fields, especially domestic agricultural policies, is analysed in order to determine the extent to which policies from different fields complement each other to achieve overarching objectives. The paper also reviews the regional and international commitments of the three selected countries to assess whether these commitments restrict domestic space for policies aimed at sustainable and socially inclusive agricultural development. The social inclusion of agricultural development is found to be substantially higher in Ethiopia compared to the two other countries, due to its strong and pro-poor public agricultural budget and relatively equal distribution of land use rights in the highlands. Meanwhile, international policy commitments are found to only marginally restrict domestic policy space for all three countries.

Key Words

Trade policy, agriculture, development, sub-Saharan Africa, Benin, Ethiopia, Zambia, social inclusion, sustainability, productivity, trade agreements, agro-food-sector, industry, policy coherence

Executive Summary

Background

Assessment of the agricultural sectors in Benin, Ethiopia and Zambia shows that agriculture, measured by its contribution to national GDP, is a predominant sector in Ethiopia, an important one in Benin and a rather small one in Zambia. In all three countries, however, it is the main source of livelihoods, as it employs a large share of the labour force, even in Zambia. The agro-food sector also plays a major role in trade, especially for Benin and Ethiopia, where agricultural and food products make up a large share of national exports as well as imports. This suggests that agricultural policies and trade policies related to the agricultural sector in all three countries have the potential to influence the livelihoods and welfare of a large proportion of the population. They can also contribute towards setting up favourable frameworks for achieving a sustainable, socially inclusive and competitive agricultural sector within each country.

Agricultural and trade policies

Over time, these three countries have implemented various policies affecting their agricultural sectors. As a result of these policies, overall political support for agriculture as measured by the Nominal Rate of Assistance has been negative for Zambia and Ethiopia for most years between 1965 and 2004, positive in some years from 2005 on, and close to zero for the whole period in Benin. In the field of trade policy, all three countries implemented trade reforms attached to structural adjustment programs in the 1990s with the aim of liberalizing their economies and improving competitiveness. At the national level, these reforms involved the removal of government interference in domestic markets, removal of import bans and quotas, simplification of tariff structures as well as exchange-rate policy reforms. At the international level, all three countries are members of regional organizations, with the ambition of becoming free-trade areas with harmonized trade rules. Moreover, Benin and Zambia are members of the WTO, while Ethiopia is still in the accession process. The three countries are all covered by negotiations of the European Partnership Agreements as well as the Africa Growth Opportunity Act (AGOA) initiative of the United States, providing them with preferential access to EU and US markets. Benin and Ethiopia, being considered Least Developed Countries, benefit from free access to EU markets via the "Everything But Arms" initiative, while Zambia, as a middle-income economy, does not. Thus, the domestic policy options of the three countries are affected by rules established at the international as well as regional levels.

Consistency of policy frameworks and effects on agricultural development

Trade liberalization is not per se an aim of agricultural-sector development policy but, rather, needs to be complemented by domestic policies aimed at socially inclusive and sustainable agricultural sector development. The case of trade liberalization in Benin is a good example. Although substantial trade reforms have been implemented since 1990, the reduction of its rural poverty and decline in its Gini coefficient lag far behind that of Ethiopia, which invested a much greater share of its public budget in domestic-sector development (17% in 2015, compared to about 4% in Benin). The pro-poor focus of Ethiopian public expenditure as well as the compara-

tively equal distribution of land use rights in the highlands, which are dominated by small-scale farming, have added to comparatively inclusive development there. Meanwhile, Zambia is a quite different case. It invests a relatively large share of its public budget (9.5%) to support a relatively small agricultural sector (5.3% of GDP). However, due to its almost exclusive focus on input and output subsidies, the end effect on broad and pro-poor sector development is rather small. Despite substantial growth in food production in recent decades, the sectoral productivity in all three countries still lags far behind the productivity levels achieved in the rest of the world. Thus, trade reforms alone, even if resulting in a high degree of openness to international markets, are not sufficient for achieving a sustainable, socially inclusive and competitive agricultural sector.

We do not find, however, that current international trade policy commitments seriously restrict domestic agricultural policy space and development in these countries. For example, Benin and Zambia's WTO commitments do not seriously restrict any domestic policy objectives, as their tariff bindings are far above currently applied tariffs. Meanwhile, for Ethiopia, given its already existing free access to the markets of several high-income economies and its own preferential trade agreements with others, joining the WTO and not having the possibility to set tariff bindings far above applied levels might not be in its best interest. Regarding the concluding of Economic Partnership Agreements with the EU, long transition periods and the option to opt out a substantial share of sensitive products implies only limited restrictions on domestic agricultural sector development. Nevertheless, concluding such agreements may be less interesting for Least Developed Countries, like Benin and Ethiopia, compared to sub-Saharan African countries not having that status, such as Zambia.

As for regional trade integration, the share of external trade with African trade partners in total trade has increased for Benin, Ethiopia and Zambia during recent decades. Nevertheless, there is still much potential for improved regional trade integration through the reduction of non-tariff barriers of institutional, regulatory, and infrastructural kinds, which hamper existing regional trade agreements from delivering their full potential.

Core findings

Trade liberalization is not per se an aim of agricultural-sector development policy but, rather, needs to be complemented by domestic policies aimed at socially inclusive and sustainable agricultural sector development. The social inclusion of agricultural development has been found to be substantially higher in Ethiopia compared to Zambia and Benin, due to its strong and pro-poor public agricultural budget and relatively equal distribution of land use rights among farms in the highlands. We do not find current international trade policy commitments seriously restricting domestic agricultural policy space and development for any of the three countries.

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Abbreviations

ACP	African, Caribbean and Pacific countries
AGOA	Africa Growth Opportunity Act
AMAB	Mutual Agricultural Insurance of Benin
CET	Common External Tariff
COMESA	Common Market for Eastern and Southern Africa
EBA	Everything But Arms
EPA	Economic Partnership Agreement
ECOWAS	Economic Community of West African States
ECX	Ethiopian Commodity Exchange
EU	European Union
FISP	Farmer Input Support Program
FNDA	National Fund for Agricultural Development
FRA	Food Reserve Agency
FSP	Fertilizer Support Program
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse gas
GTP	Growth and Transformation Plan
IMF	International Monetary Fund
LDC	Least Developed Countries
MFN	Most Favorable Nation
MCC	Millennium Challenge Corporation
MMD	Movement for Multiparty Democracy
NRA	Nominal Rate of Assistance
ONASA	National Office for Food Security
SADC	Southern Africa Development Community
SONAPRA	National Agricultural Promotion Company
US	United States of America
WAEMU	West African Economic and Monetary Union
WTO	World Trade Organization

1 Introduction to the research project

Generally, agricultural trade policy is just one element of a package of agricultural, environmental, economic and development policies, which together constitute the political framework for (inter)national agricultural development. Thus, orientation of these policies towards overarching political objectives as well as achieving coherence between different policy fields is important.

Against this background, the present study analyses the trade policies of selected African countries (Benin, Ethiopia[1], and Zambia) with respect to their conformity with objectives regarding the "ecological sustainability", "social inclusion" and "competitiveness" of agriculture as well as with respect to their coherence with domestic policies. It compares the three countries against relevant macro-economic indicators. However, the presentation of data is often constricted by their availability and different data collection methods across countries.

The study is organized as follows. First, Chapter 2 provides an overview of the three selected economies, with a focus on each agricultural sector: its sustainability, social inclusion, and productivity as well as its role in trade. Subsequently, Chapter 3 presents current trade and agricultural policies in each country, with an outlook towards future developments. International trade policies affecting Benin, Ethiopia and Zambia – meaning regional trade agreements, European Partnership Agreements and World Trade Organization (WTO) commitments as well as trade policies of other countries – are presented in Chapter 4. In Chapter 5, the effects of each country's agricultural trade policies on proclaimed sustainability, social inclusion and competitiveness objectives are discussed. Finally, Chapter 6 discusses the levels of coherence between the selected country's trade and domestic policies, deriving some implications for future national trade policies as well as further development of international trade policies.

1 It is important to note that agricultural livelihoods in Ethiopia are highly diverse and so are its associated policies. This report focuses on Ethiopian livelihoods on average, being primarily driven by the highland areas which comprise a large share of the population. Studying the effects of trade policies on an inclusive, sustainable and competitive agricultural sector in the Ethiopian lowlands would require a different analytical focus (see Rettberg, Beckmann, Minah, & Schelchen 2017).

2 Current state of the agricultural sector in Benin, Ethiopia and Zambia

2.1 Economy and agricultural sector

Benin, Ethiopia and Zambia are three low-income countries located in sub-Saharan Africa (Figure 1). While Benin has a seaport, Ethiopia is landlocked, but with close access to the Port of Djibouti, whereas Zambia is landlocked, with the closest seaport (Beira, Mozambique) being 1,400 km away.

Figure 1: Benin, Ethiopia, and Zambia

Source: Authors' own illustration conducted in Tableau software.

Since the 1960's, annual Growth Domestic Product (GDP) growth in all three countries has been fluctuating substantially from one year to the other (Figure 2). The volatility of growth rates was stronger in the period prior to 2005 but became more stable during the past decade, with all three countries growing since 2005. Among the three, Ethiopia appears to be the best performer in recent years, with its annual GDP growth being on average above 10% since 2005. However, this finding needs to be put into perspective with the initial levels of these economies as, in fact, Zambia and to a lesser degree Benin are both wealthier than Ethiopia. Nevertheless, purchasing power expressed as GDP per capita in constant 2010 US$ shows that Ethiopia has been catching up in recent years (Figure 3). Figure 3 also shows that, while real GDP per capita in Benin has been steadily increasing over time, in Ethiopia it remained rather constant until 2004, before taking off strongly. The situation in Zambia is more mixed, as purchasing power there was high in the 60's, before it started to decrease, first slowly in the 70's and then sharply through the 80's and 90's. Only in the late 90's did a growth trend resume, caused by internal policy choices as well as the strong dependence of the Zambian economy on export of copper, the prices of which on international markets fell in the 70's and remained low through the 80's and 90's (Avisse and Fouquin, 2001).

The structures of these three economies are quite different. While the agricultural sector used to play an important role in both Benin and Ethiopia, it has only been a small sector for several decades in Zambia, where mining historically contributed the most to the economy before services took over (Figure 4). Nevertheless, with economic development in all three countries, the contribution of their agricultural sectors is shrinking slowly, mostly to the benefit of the service sector, while shares of industry are either growing slowly, such as in Benin and Ethiopia, or decreasing, as is the case in Zambia.

Although the agricultural sector's contribution to the GDP is relatively small in Zambia, it is still the sector accounting for the highest proportion of employment in the country (Table 1). This evidence pinpoints to inequalities in income distribution in Zambia, which has the most unequal income distribution of the three countries, as measured by the Gini index (Table 1).

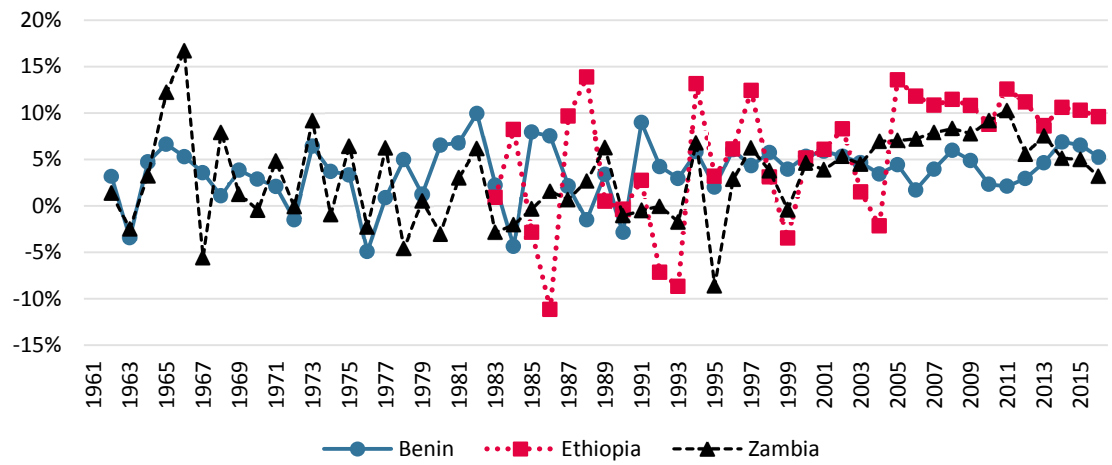


Figure 2: Annual GDP growth, 1961–2015 (in %)

Source: World Bank (2016a).

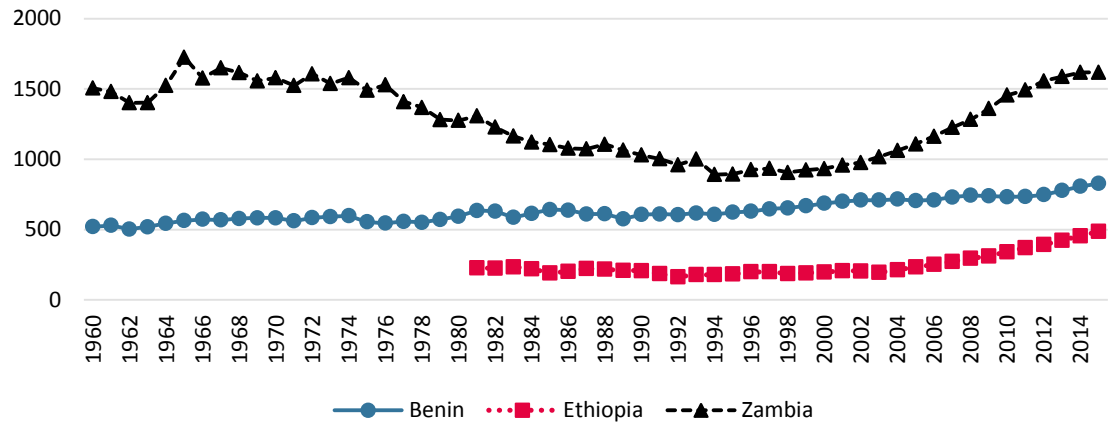
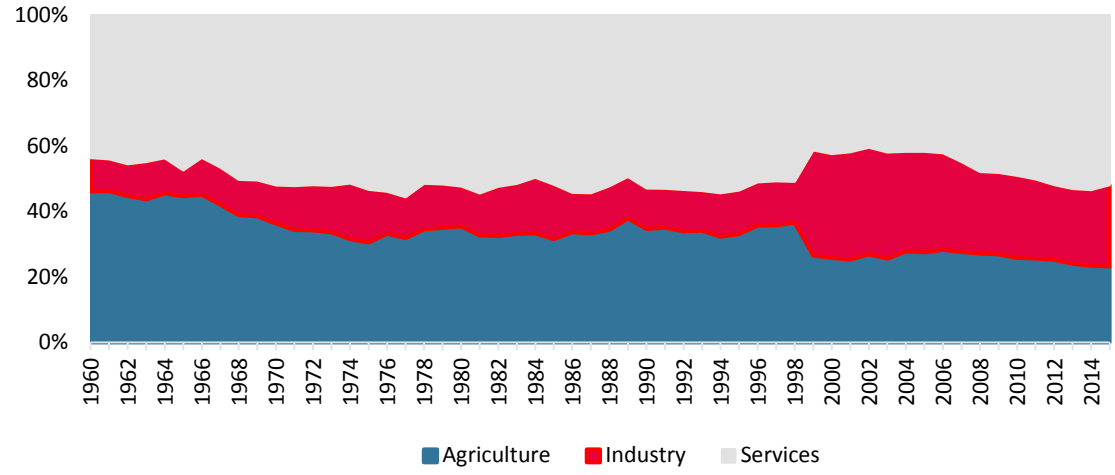


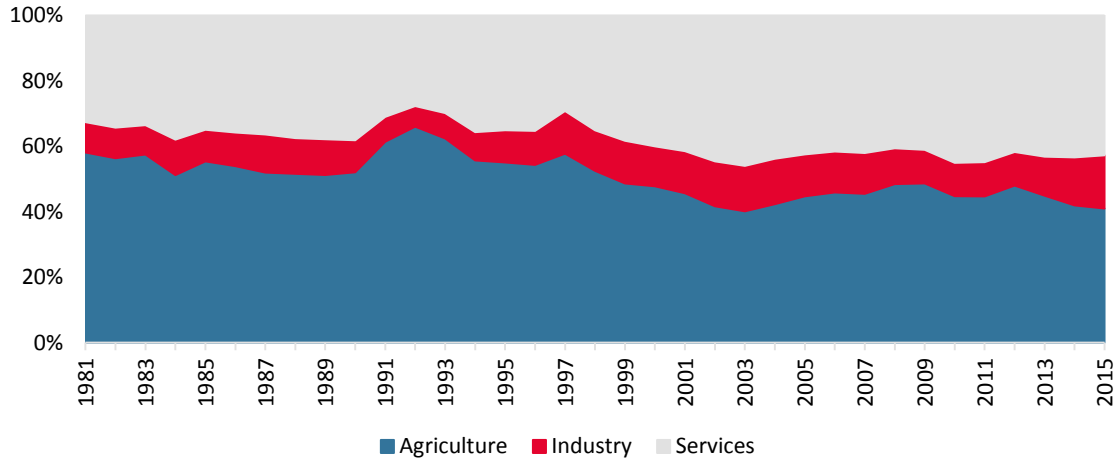
Figure 3: Real GDP per capita, 1960–2014 (in constant 2010 US$)

Source: World Bank (2016a).

a) Benin



b) Ethiopia



c) Zambia

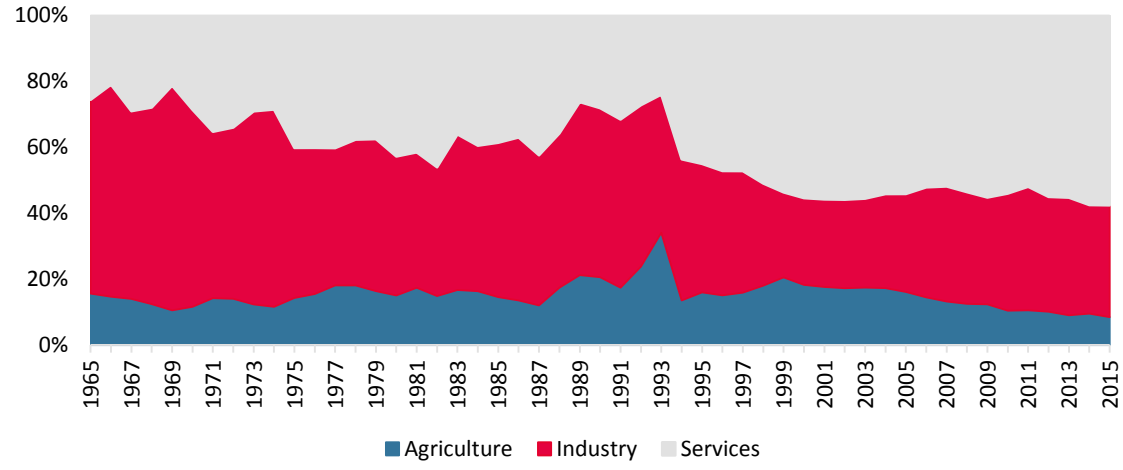


Figure 4: GDP composition, 1960–2014 (in %)

Source: World Bank (2016a).

Table 1: Core economic indicators for Benin, Ethiopia and Zambia

	Benin	Ethiopia	Zambia
Population (million)	10.9 (2015)	99.3 (2015)	16.2 (2015)
GDP (US$ current billion)	8.5 (2015)	61.5 (2015)	21.2 (2015)
GDP growth (%)	5.2 (2015)	9.6 (2015)	3.2 (2015)
GDP per capita (US$)	779.1 (2015)	619.1 (2015)	1307.8 (2015)
Gini index	43.4 (2011)	33.2 (2010)	55.6 (2010)
Share of agriculture in GDP (%)	25.3 (2015)	40.9 (2015)	5.3 (2015)
Share of agriculture in total employment (%)	45.1 (2010)	72.7 (2013)	52.2 (2012)
Share of agriculture in total exports (%)	75.1 (2014)	90.6 (2015)	8.9 (2014)
Share of agriculture in total imports (%)	49.6 (2014)	11.5 (2015)	5.3 (2014)

Source: World Bank (2016a).

With regard to the importance of the agricultural sector in trade, it appears from Table 1 that Benin and Zambia are antipodes. While agricultural products account for most of Benin's imports and exports, they are only a small fraction of Zambia's international trade. The case of Ethiopia is more mixed, as agricultural products account for the quasi totality of the country's exports but are only a fraction of its imports.

Growth in the agricultural sectors of these countries, measured as agricultural value added, has been erratic over the years (Figure 5). This intermittent growth is mainly due to high dependence of the sector in all three countries on volatile weather conditions as well as volatile input and output prices. Despite such erratic growth, the three countries have experienced strongly increasing food production over the past few decades, especially in recent years (Figure 6). This performance has mainly been driven by agricultural land expansion and, to a lesser degree, by yield growth (Byerlee et al., 2014).

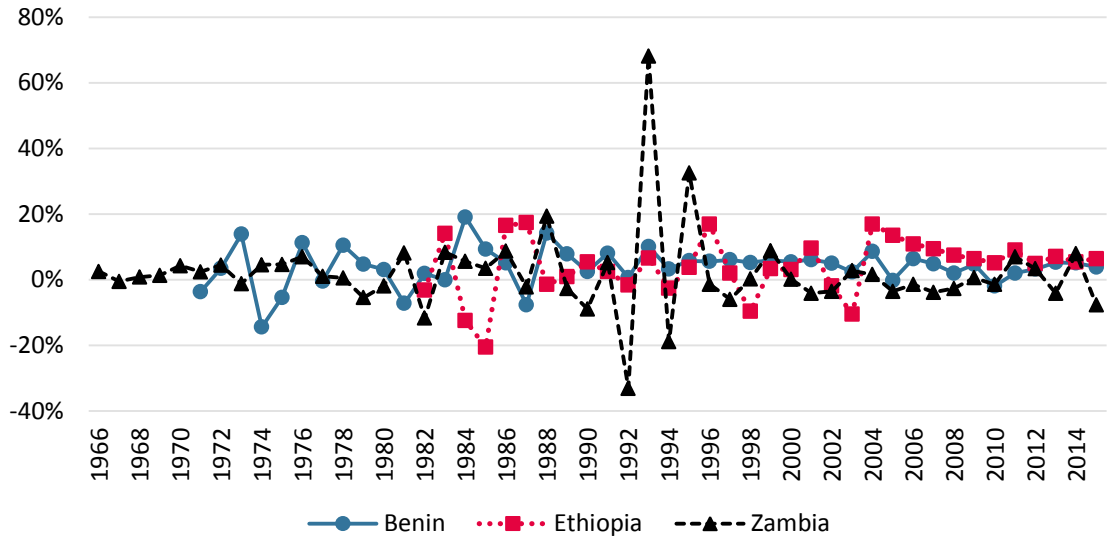


Figure 5: Annual growth of agricultural value added, 1966–2015 (in %)

Source: World Bank (2016a).

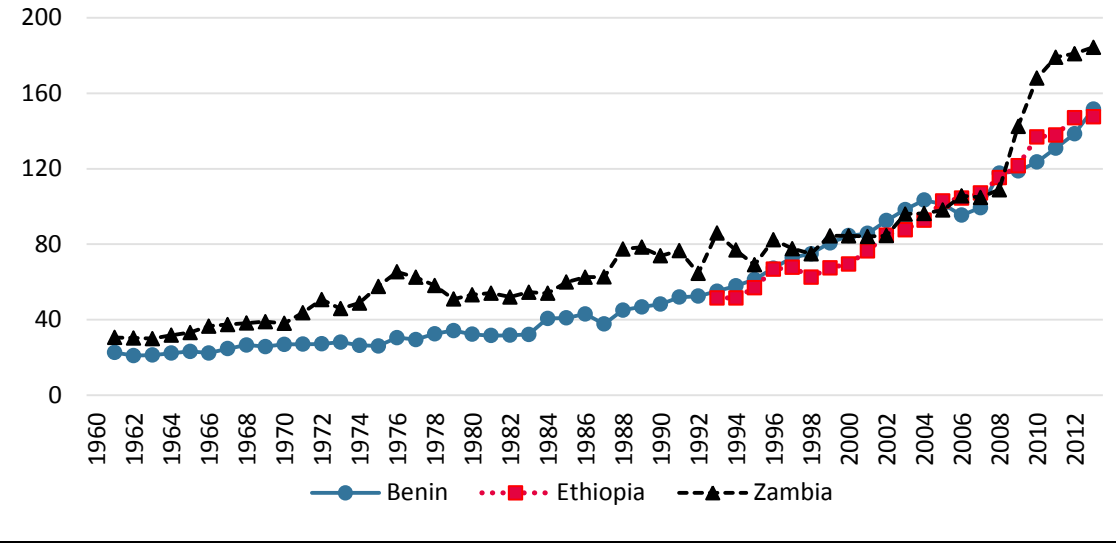


Figure 6: Food production index, 1961–2013 (2004–2006 = 100[2])

Source: World Bank (2016a).

2 The food production index has no unit. Average food production over the period 2004–2006 is taken as the reference point to which food production in the other years is compared.

2.2 Sustainability, social inclusion, and productivity of the agricultural sectors in the three countries

2.2.1 Sustainability

The agricultural sectors in all three countries are characterized by the use of limited amounts of external inputs. Although the intensity of use of external inputs varies across regions and across crops, in general in all three countries current agricultural techniques have resulted in soil mining, where the minerals extracted when harvesting crops are not compensated for via fertilizer input, whether organic or inorganic (Vanlauwe et al., 2014). Over the period 2002-2013, the average use of fertilizers in Benin stood at 5 kg of nutrients per ha and 16 kg and 32 kg for Ethiopia and Zambia, respectively (Figure 7). Over the same period, the world average was about 121 kg (World Bank, 2016a). While the world average may be too high from an environmental sustainability perspective, the Abuja declaration, based on expert estimates, put the minimum required level of fertilizer use in African countries at 50 kg of nutrients/ha (Okoboi and Barungi, 2012).

Agriculture in the three countries exerts a strong pressure on forestland and is the key factor behind deforestation (Figure 8), the rate of which is the highest in Benin and lowest in Ethiopia (World Bank, 2016a). This finding needs to be put into perspective, however, by looking at the initial forest endowment and population density of these countries. Ethiopia has a higher population density and a lower forest endowment as compared to the two other countries. Zambia is the least densely populated country of the three, and still has substantial arable land that can be put into production, while in Benin, especially in the southern part of the country, most of the existing agricultural land is already under production and more can only be acquired by converting forestland into cropland. Several of the current agricultural techniques used in the three countries are not environmentally friendly, such as slash-and-burn clearing, which exposes soil to wind and water erosion. Other problematic techniques currently in use include bush fires, livestock overgrazing and mono-cropping.

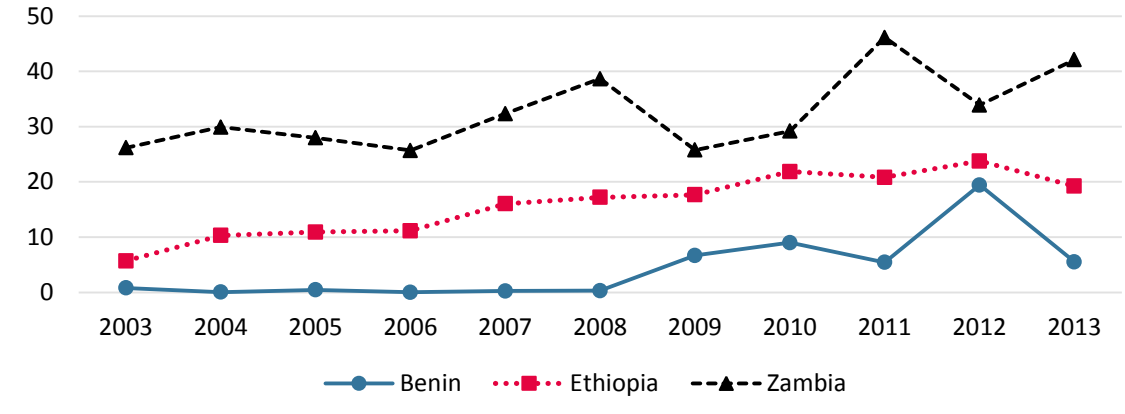


Figure 7: Fertilizer consumption, 2003– 2013 (kg of nutrients per hectare of arable land)

Source: World Bank (2016a).

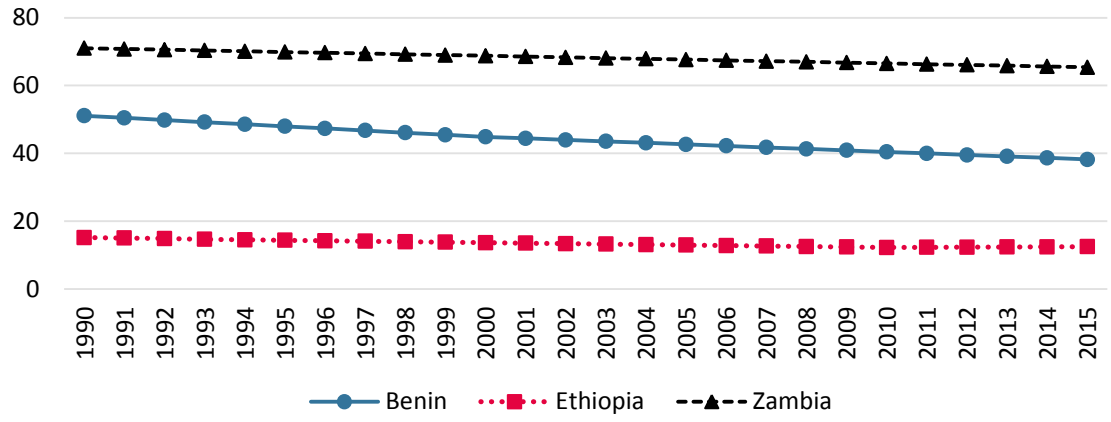


Figure 8: Forest area, 1990–2015 (% of land area)

Source: World Bank (2016a).

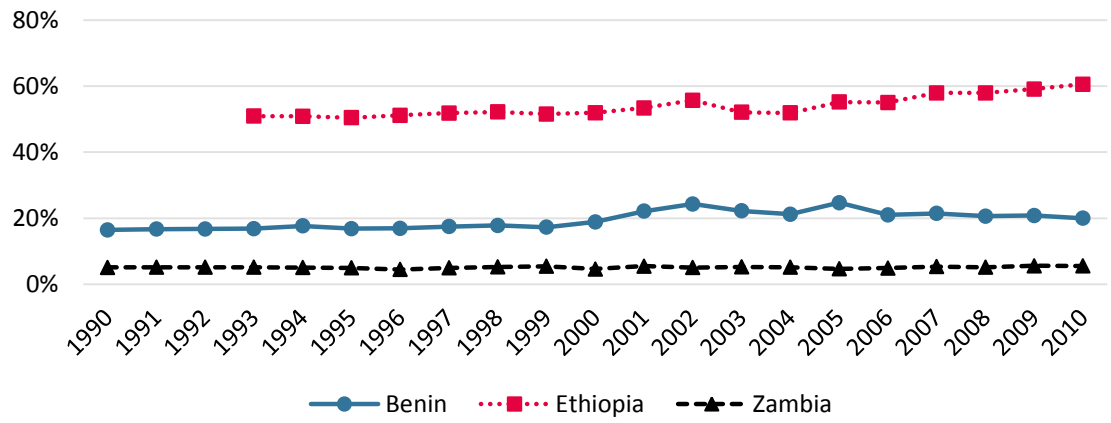


Figure 9: Agricultural sector share in total GHG emissions, 1990–2010 (in %)

Source: FAO (2016).

Similar to most African countries, Benin, Ethiopia and Zambia have low emissions compared to the rest of the world. To illustrate, the average CO_2 emissions measured in metric tons per capita over the period 1964 – 2013 were 0.06 in Ethiopia, 0.21 in Benin and 0.48 in Zambia, taken against the world average over the same period, which was 4.21 (World Bank, 2016a). Nonetheless, agriculture contributes substantially to the current greenhouse gas emissions (GHG) of all three countries, especially in Ethiopia (Figure 9). The differences in the contribution of their agricultural sectors to total GHG emissions across the three countries is related to the importance of the agricultural sector in their respective economies (see Table 1). In Ethiopia, where the agricultural sector is large, its contribution to total GHG emissions is also large. In any case, in all the three countries, the contribution of the agricultural sector to GHG emissions have increased compared to levels in 1990. It is hoped that further improvement of agricultural practices may substantially contribute to lower GHG emissions in the future.

2.2.2 Social inclusion

From a social inclusion perspective, access to land differs among the three countries (Table 2). Farm size is very small on average, the lowest being in Ethiopia with 1.3 ha per farming household, while the average in Benin is 1.7 ha and in Zambia 3.2 ha (MAEP, 2011; Devereux et al., 2007; Tembo et al., 2013). However, these average values hide an unequal distribution of land within each country, with a tiny proportion of farming households having large tracts of land and the remainder only small plots. Distribution of land is the most equal in Ethiopia, with only about 1% of farms having a farm size above five ha, whereas this share is 6% in Zambia and 12% in Benin.

A recent development regarding access to land in all three countries is large-scale land acquisitions. In both Ethiopia and Zambia, there has to some degree been foreign investment in large-scale land acquisition (Abbink, 2011; Ng'ombe and Keivani, 2013), whereas in Benin, by contrast, the main trend has been urban demand for large-scale rural land acquisition, either for investment or speculation (Hilhorst, 2011). This new trend in all three countries has been found to be contributing towards more unequal land distribution, having little or sometimes even a negative localized effect on food security, rural employment and rural poverty (Hilhorst, 2011; Ng'ombe and Keivani, 2013;Alamirew et al., 2015; Rahmato, 2011).

Table 2: Share of farms by size (in %)

	< 1ha	1–5ha	> 5ha
Benin*	34%	54%	12%
Ethiopia **	63%	36%	1%
Zambia ***	48	46%	6%

Sources: * Authors' own estimates, based on MAEP (2011); ** FAO (2001); *** Authors' own estimates, based on Hichaambwa and Jayne (2014).

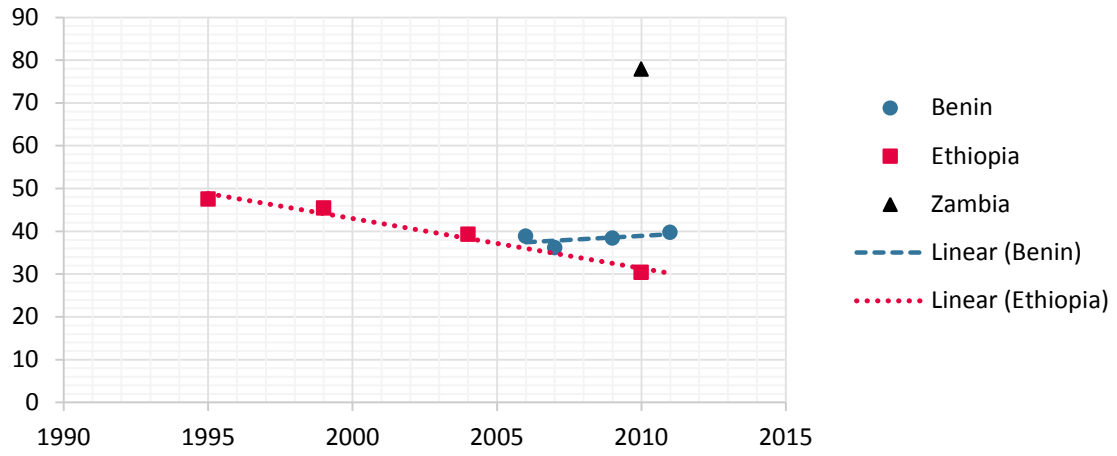
In Zambia and Ethiopia, there is a long history of fertilizer subsidies aimed at reducing the financial costs of production for farmers and improving yield. However, in both countries the outcome of these policies has been mixed, due to high fiscal costs and a substantial share of the subsidies accruing to wealthy large-scale farmers (Spielman et al., 2010; Druilhe and Barreiro-Hurlé, 2012).

From a gender perspective, in all three countries men enjoy much better access to land than women do (Hilhorst et al., 2011; Bezabih et al., 2010). In the customary tenure systems that still reign in large parts of these countries, land is inherited by men, with women mostly gaining access to land through marriage. However, when husbands die, women often have difficulty keeping their land. Female-headed households, which are often cases where the husband has died or is absent, are more vulnerable than male-headed households. In Benin and Zambia, there are national gender policies that have been put in place to improve conditions for females, especially in rural areas (MAEP, 2011; Dlamini and Samboko, 2016). However, in practice the implementation of such policies has for the most part failed. In Zambia, for instance, gender policy targets distributing 30% of the country's land to women; however, this target has never come close be

being reached. Nevertheless, women play an important role in the agricultural sector in all three countries and are involved in most agricultural operations and in all food-processing stages. Another dimension of the gender component is youth access to land. In the densely populated highlands of Ethiopia and in the southern part of Benin, continued population growth in combination with egalitarian inheritance and land redistribution reforms have led to land fragmentation, to levels that are insufficient for cropping (Holden and Otsuka, 2014). Access to extension services varies by country. While most farmers in Ethiopia have good access to extension services overall, in Benin and Zambia farmers in remote areas barely have any contact with extension workers (Adeoti et al., 2002; Spielman et al., 2011).

In all three countries, the main economic activity in rural areas is agriculture, which is dominated by smallholders. Hence, there is a good correlation between rural poverty and conditions for smallholder farmers, and Figure 10 shows that poverty is more a rural feature than an urban one. In fact, for all three countries across time, the rural poverty headcount is higher than that for urban poverty. Moreover, in Benin, although the rural poverty headcount has remained constant over time (Figure 10a), the urban poverty headcount has decreased (Figure 10b). This may indicate differentiated policies favouring urban areas more than rural ones. However, in Ethiopia it appears clearly that both urban and rural poverty have decreased in similar proportions over time, and one may thus infer that policies in Ethiopia are fairer in treating rural and urban areas alike. The changes in poverty in the rural and urban areas of the three countries have been translated into Gini coefficients (Figure 11). In Ethiopia, the impressive downward trend of its Gini coefficient over time illustrates that society has become more equal overall. By contrast, the Gini coefficient in Benin has increased, showing that the society has become more unequal; this can be explained in parts by poverty remaining at the same levels in rural areas, whereas it is decreasing in urban areas. As for Zambia, the overall inequality level is substantially higher by comparison, though the overall trend seems to reflect a slight decrease; but if one only looks at the period from 1995 on, income inequality is clearly increasing even further.

a) Rural poverty headcount ratios at national poverty lines (% of rural population)



b) Urban poverty headcount ratios at national poverty lines (% of urban population)

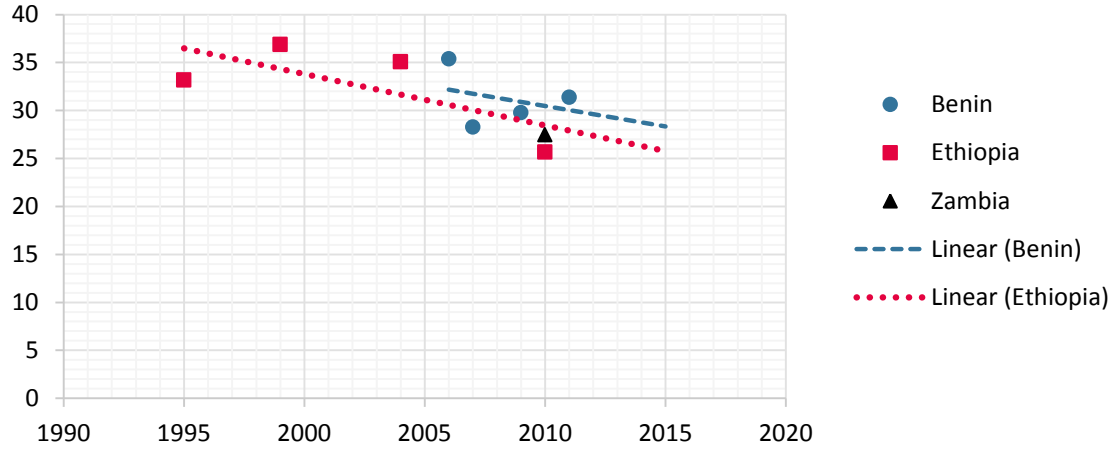


Figure 10: Rural and urban poverty headcount

Source: World Bank (2016a).

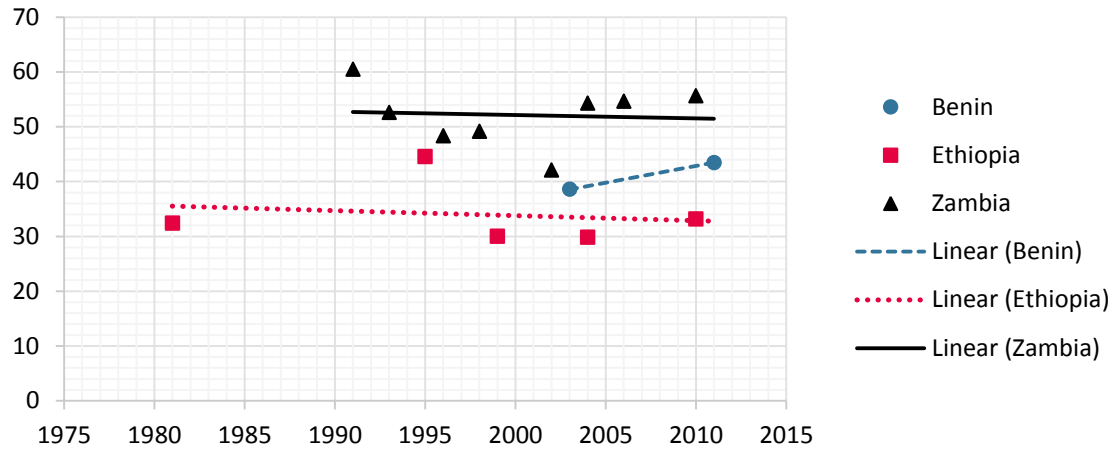


Figure 11: GINI index (World Bank estimate)

Source: World Bank (2016a).

2.2.3 Productivity

This section looks at the productivity of the agricultural sector as an important ingredient for later discussions on competitiveness. On the whole, the annual productivity of the agricultural worker in all three countries is quite low. On average, during the period 1980–2015 and measured in constant 2010 US$, it was lowest in Ethiopia (339 US$) and highest in Zambia (803 US$), with Benin being in the middle (761 US$). These productivity figures compare unfavourably with the world average over the same period, which was 1,478 US$. This low productivity can be associated with the low capital intensity in all three countries, which are especially weak in terms of mechanization. In fact, the number of tractors per 100 square kilometres of arable land in Benin is on average less than one, while in Zambia it was on average 14 for the period 1961–1987 (Figure 12), against a world average of 148 during the same period (World Bank, 2016a). Out of the three countries, Zambia appears to be the only one with a substantial degree of mechanization in the agricultural sector, originating from its colonial history, as large-scale farms were established by European settlers in the early 20th century. However, the vast majority of the smallholder farmers there have not mechanized their production yet. Similarly to the low levels of mechanization, agriculture in all three countries is hardly irrigated (Figure 13). The upward trend observed in the case of Ethiopia as compared to Benin reflects higher levels of, mostly public, investment made in the agricultural sector in Ethiopia.

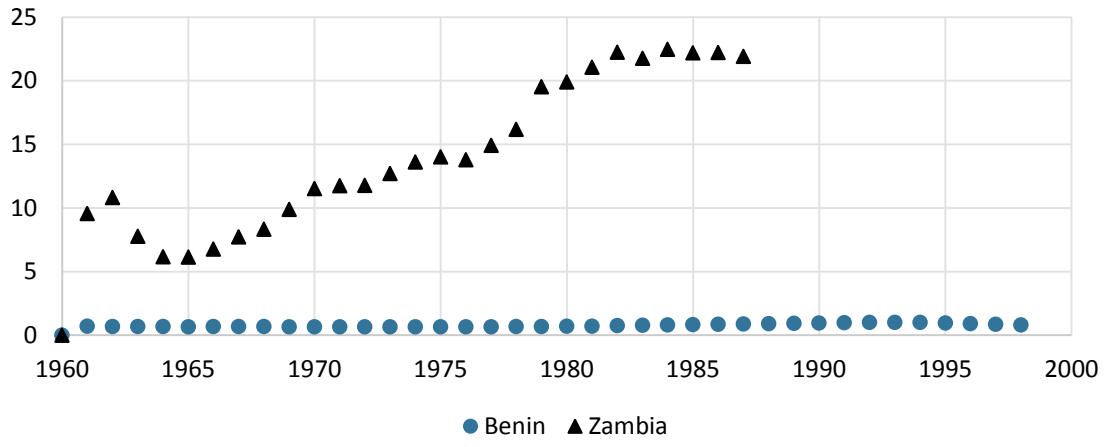


Figure 12: Tractors per 100 sq. km of arable land[3] in Benin and Zambia, 1960–2000

Source: World Bank (2016a).

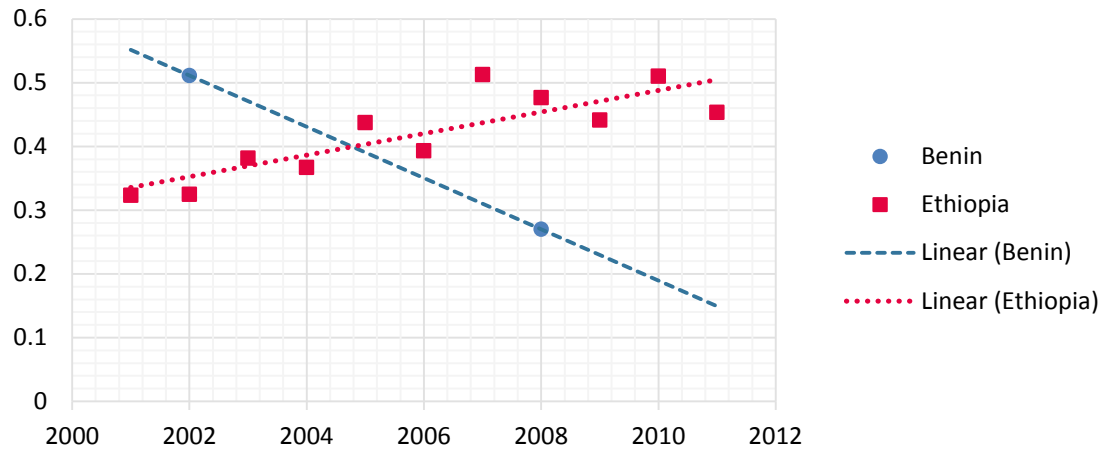


Figure 13: Agricultural irrigated land in Benin and Ethiopia, 2000–2012 (% of total agricultural land)[4]

Source: World Bank (2016a).

Against this background of low mechanization and irrigation, it is noteworthy that labour productivity in the agricultural sector, especially in Benin and in Ethiopia, has actually improved over time, though at a moderate growth rate (Figure 14). This can be attributed to a take-off in the use of fertilizer, improved seeds and increasing access to credit, the latter of which almost quadrupled between 2005 and 2015 in all countries (Figure 15). In contrast to the other two countries, however, the value added per worker in Zambia declined, which may have been a result of multiple shifts in agricultural policy since the change in political regime in 1991, which will be discussed in section 5.2.

3 Data are only available for Benin and Zambia.

4 Data are only available for Benin and Ethiopia.

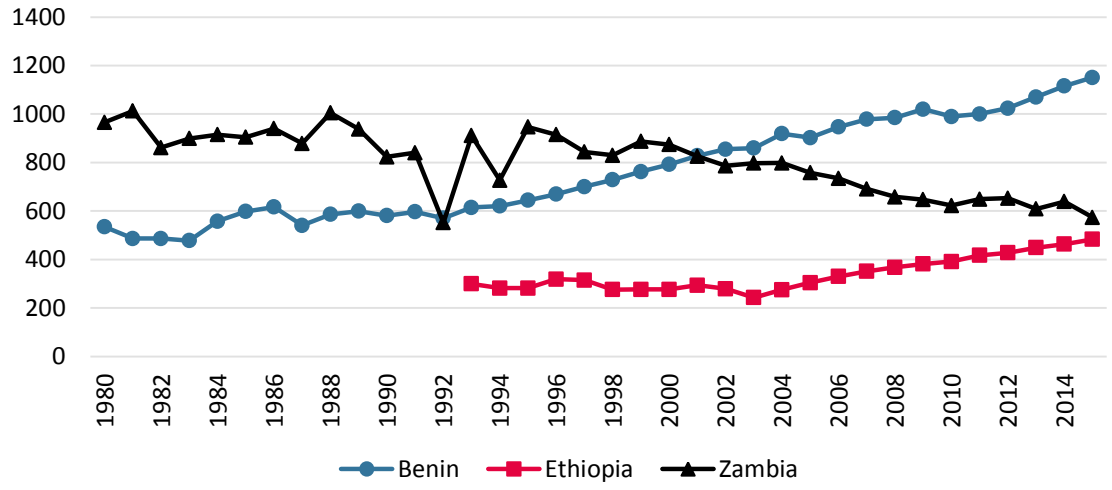


Figure 14: Agriculture value added per worker, 1980's–2015 (constant 2010 US$)

Source: World Bank (2016a).

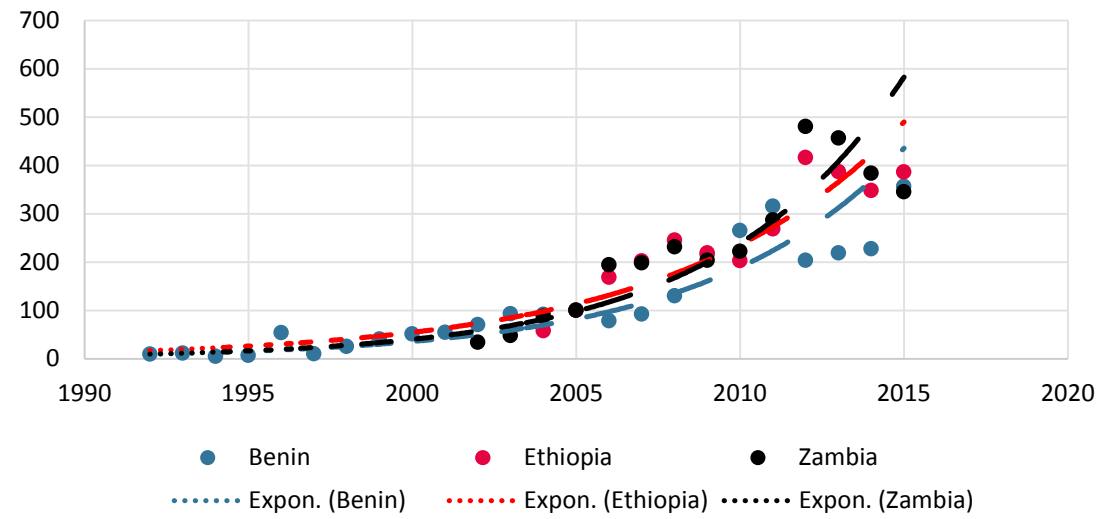


Figure 15: Agricultural credit, 1990–2015 (2005 = 100)

Source: FAO (2016).

Another indicator for productivity and as such competitiveness– cereal yield – exhibits an increasing trend for all three countries, especially in recent years (Figure 16). Nonetheless, their performance still lags behind the world average cereal yield, which was 2,620 kg/ha for the period 1961–2014, whereas it was only 875 kg/ha for Benin, 1,159 kg/ha for Ethiopia and 1,535 kg/ha for Zambia (World Bank, 2016a).

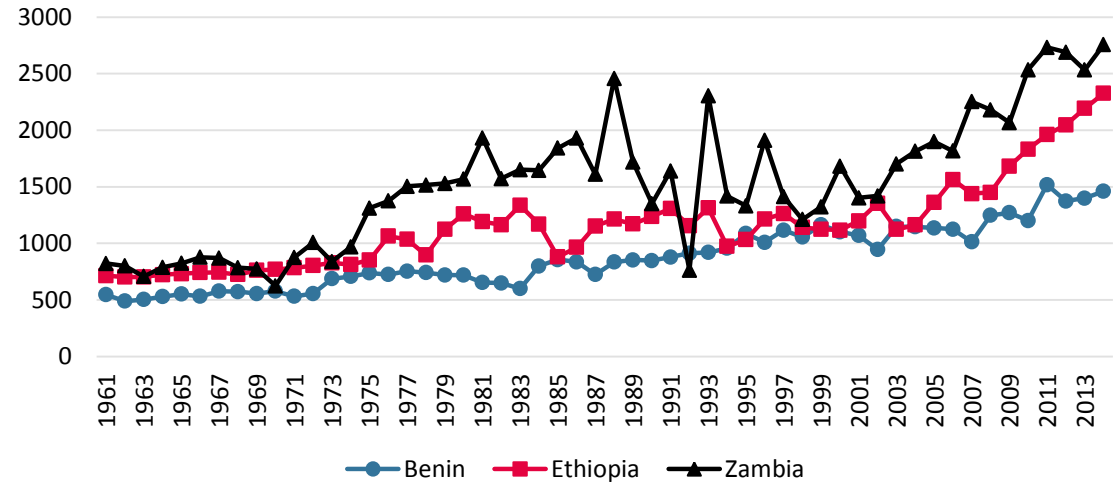


Figure 16: Cereal yield, 1961–2013 (kg per ha)

Source: World Bank (2016a).

2.3 Trade

Geographical location and resource endowment shape the trade potential of the three countries differently. Benin, with a seaport, has historically been very open to trade. Zambia, whose economy depends on mineral exports, is also very open to trade, despite being landlocked. Meanwhile, trade as a proportion of GDP has not only been lower for Ethiopia compared to the other two countries but has even been decreasing (Figure 17).

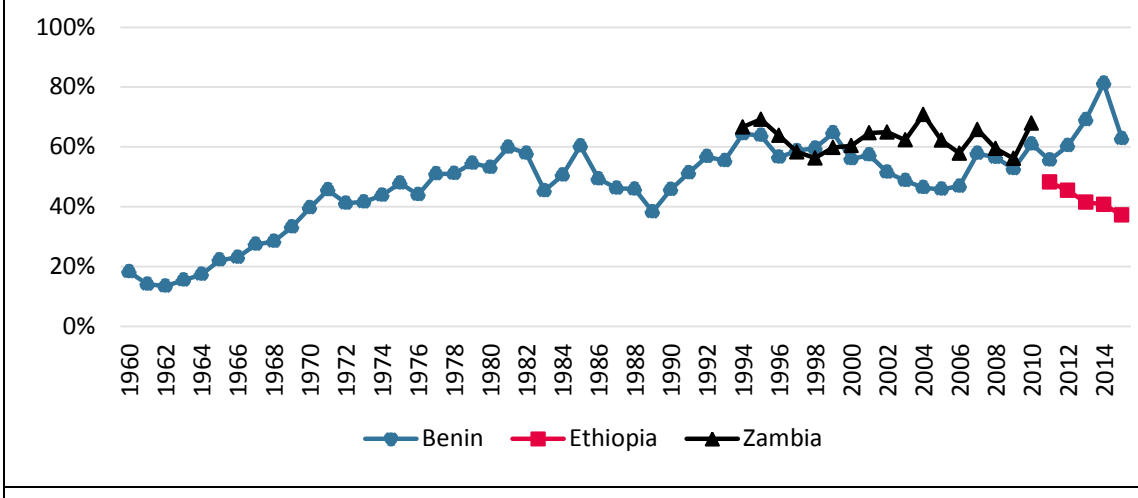


Figure 17: Trade as share of GDP, 1960's–2010's (in %)

Source: World Bank (2016a).

A common trend for the three countries is that both imports and exports have increased over time. However, while the trade-deficit gap has been widening in Benin and Ethiopia, it has been inverted into a trade surplus in Zambia (Figure 18).

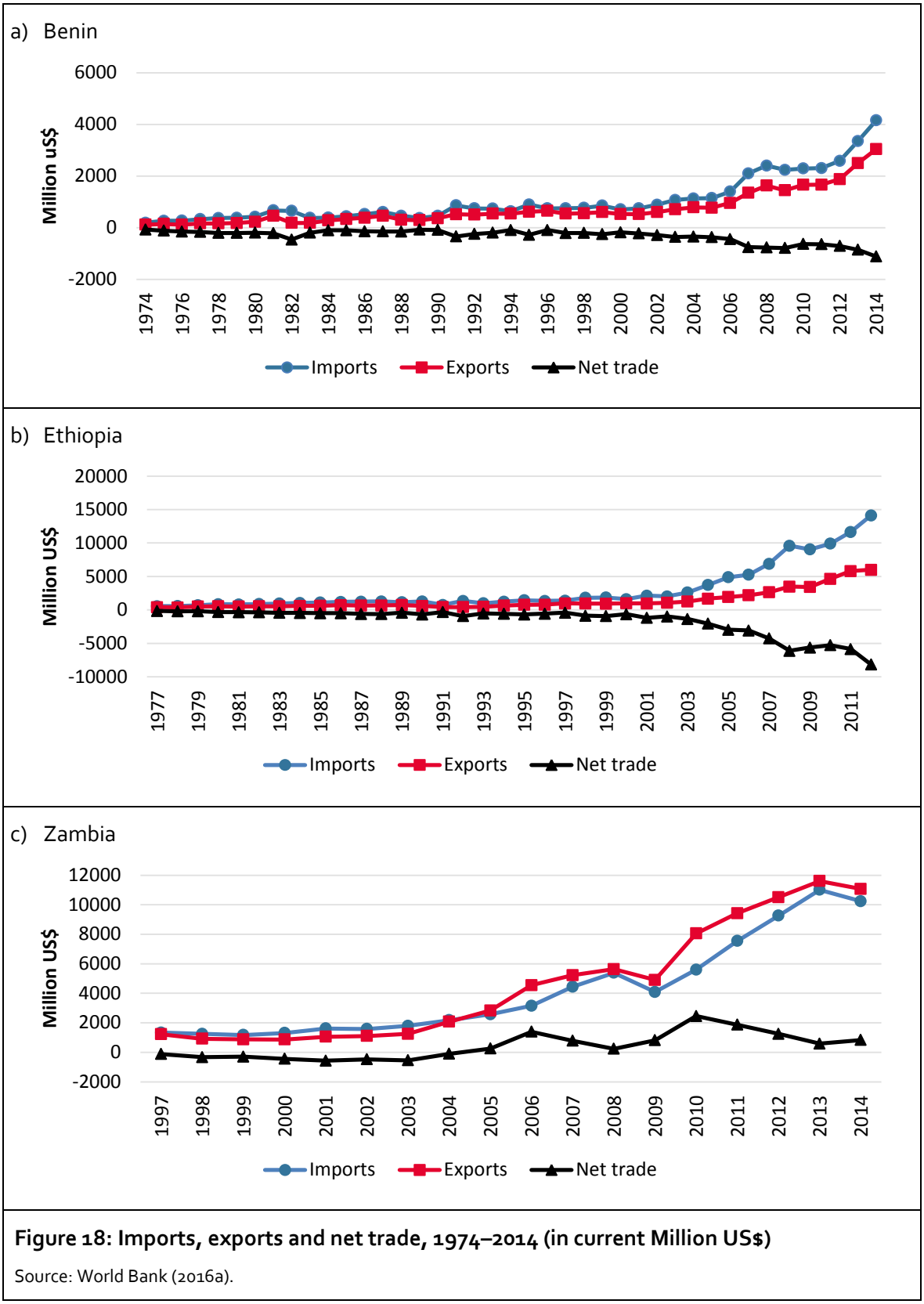
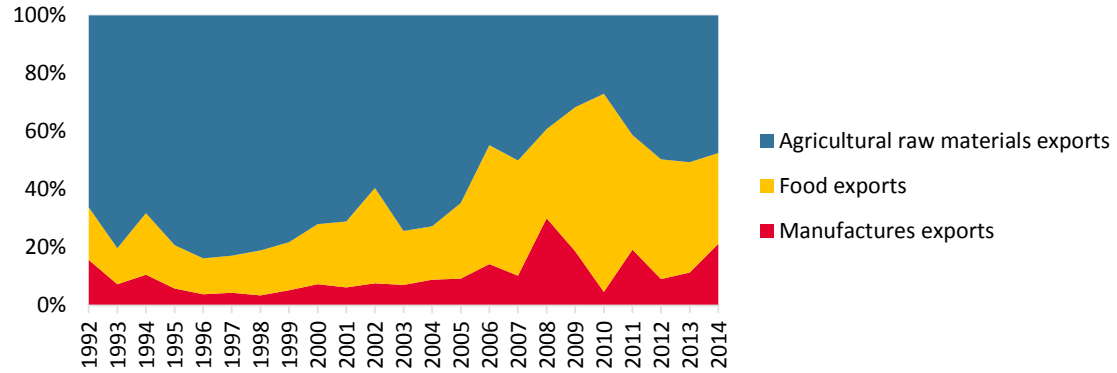


Figure 18: Imports, exports and net trade, 1974–2014 (in current Million US$)

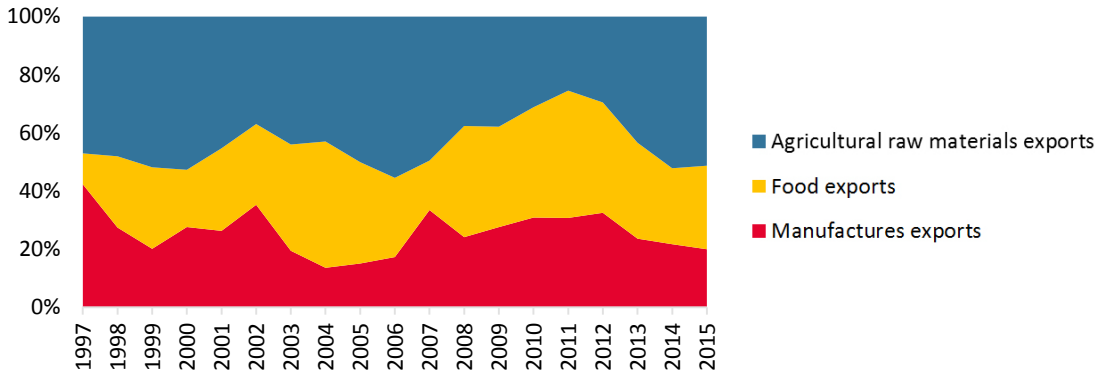
Source: World Bank (2016a).

The share of agricultural exports among total exports varies by country. It has decreased substantially in Benin, while remaining roughly constant and high in Ethiopia. In Zambia, it has been low for decades and shrinking, especially since about 2007 (Figure 19). Food exports have risen in all three countries over time, with the strongest increase taking place in Benin in the past decade.

a) Benin



b) Ethiopia



c) Zambia

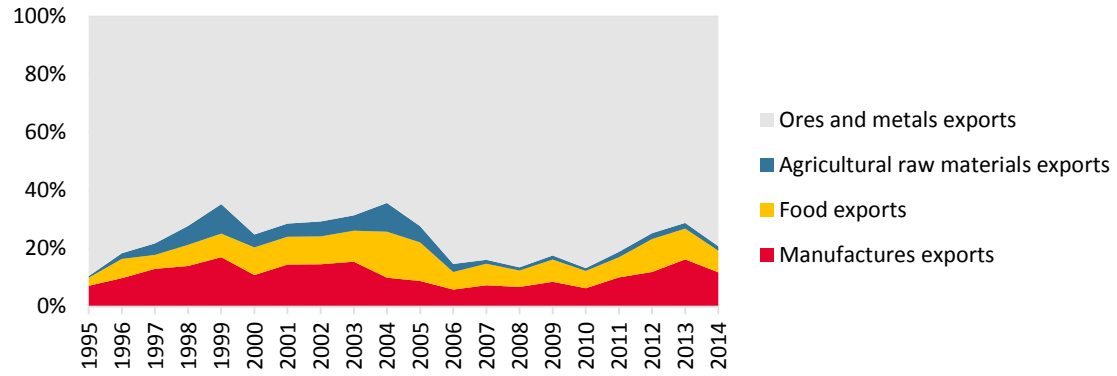


Figure 19: Share of merchandise export value by primary commodity group, 1990's–2010's (in %)

Source: World Bank (2016a).

The main agricultural export in Benin is cotton, and other exported commodities include pineapples, cashew nuts, and cereals. In Ethiopia, the main agricultural exports are coffee, tea and chat, while in Zambia it is mostly maize. The destinations for Benin and Zambia exports have strongly changed over time, while they have remained fairly stable for Ethiopia (Figure 20).

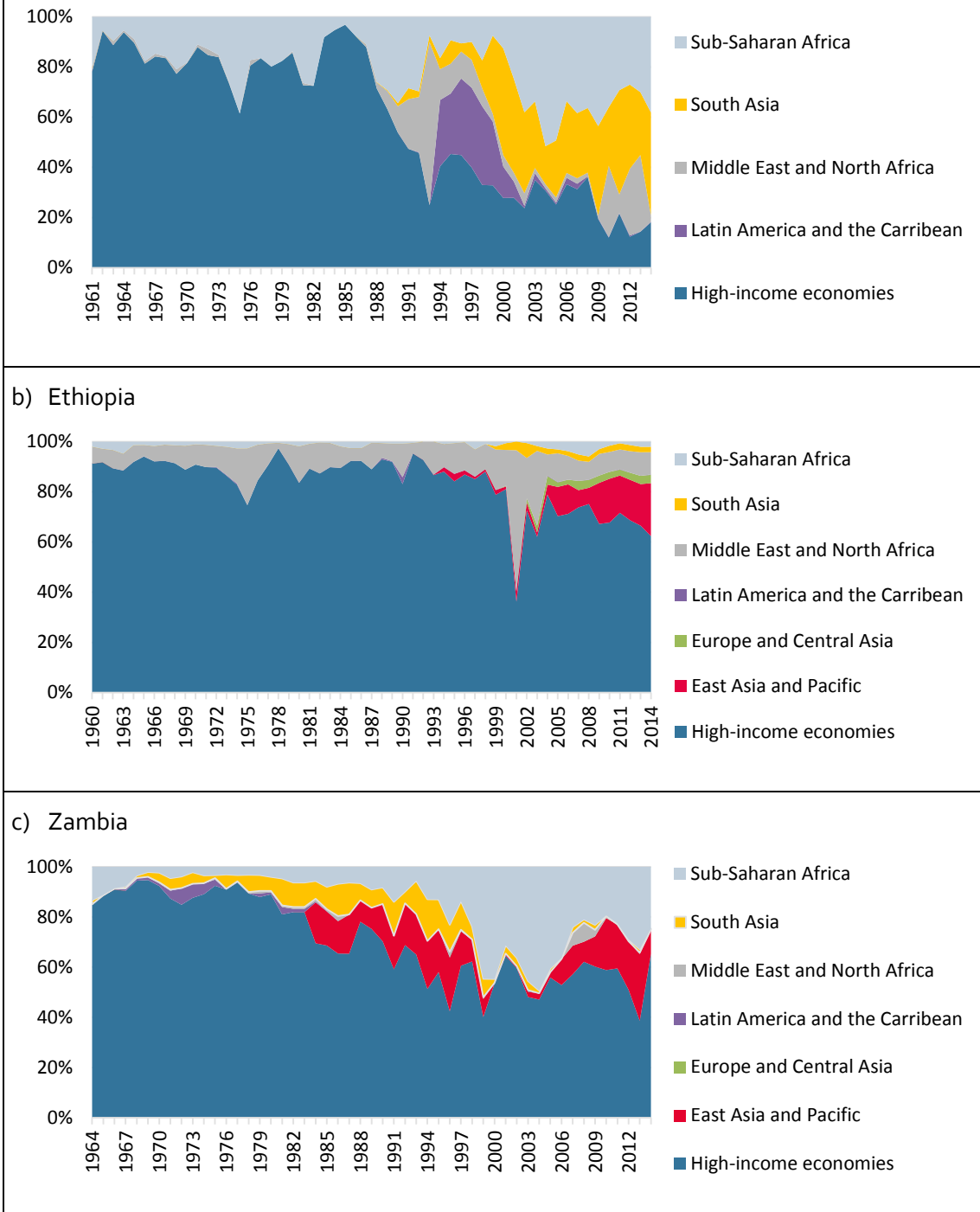


Figure 20: Shares of export values by destination, 1960's–2010's (in %)

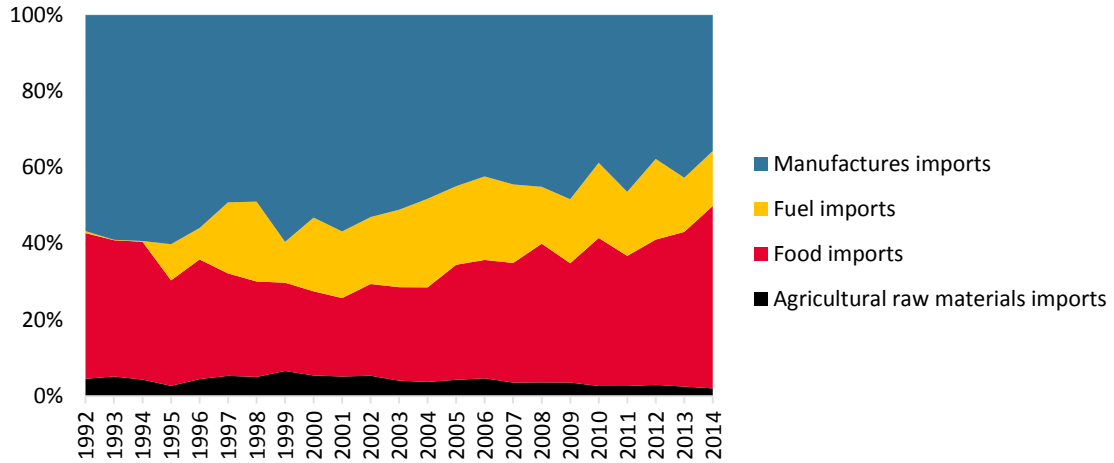
Source: World Bank (2016a).

Benin and Zambia have both significantly reduced their exports to high-income economies and begun exporting more to other low- and middle-income economies, especially in sub-Saharan Africa. A trend that is specific to Benin is the development of exports to South Asia as well as to North Africa and the Middle East.

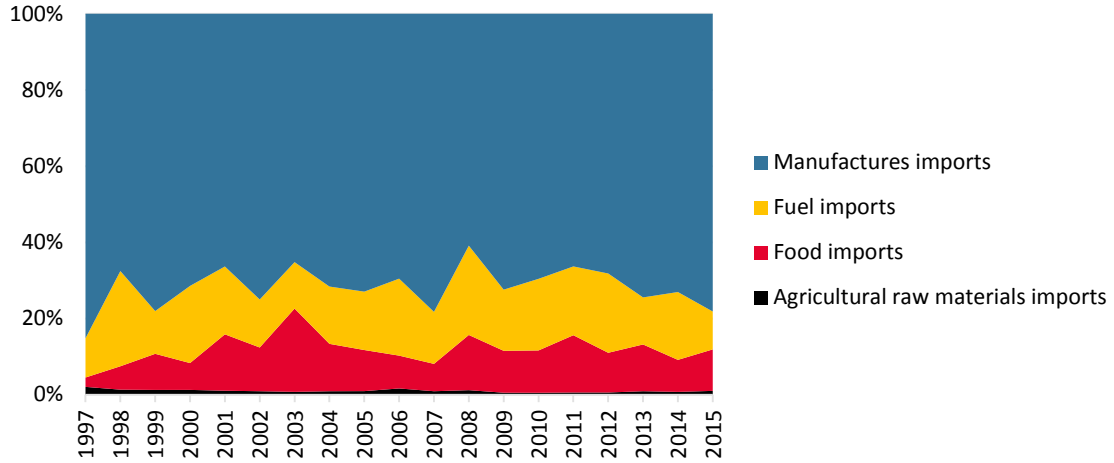
Imports to Benin, Ethiopia and Zambia have also been following different patterns. While agro-food imports form a large share of Benin's imports, they are rather low in both Ethiopia and Zambia (Figure 21).

Similar to export destinations, the origin of imports to Benin and Zambia have changed over time, shifting from high-income economies to low- and middle-income economies in sub-Saharan Africa and Asia (Figure 22).

a) Benin



b) Ethiopia



c) Zambia

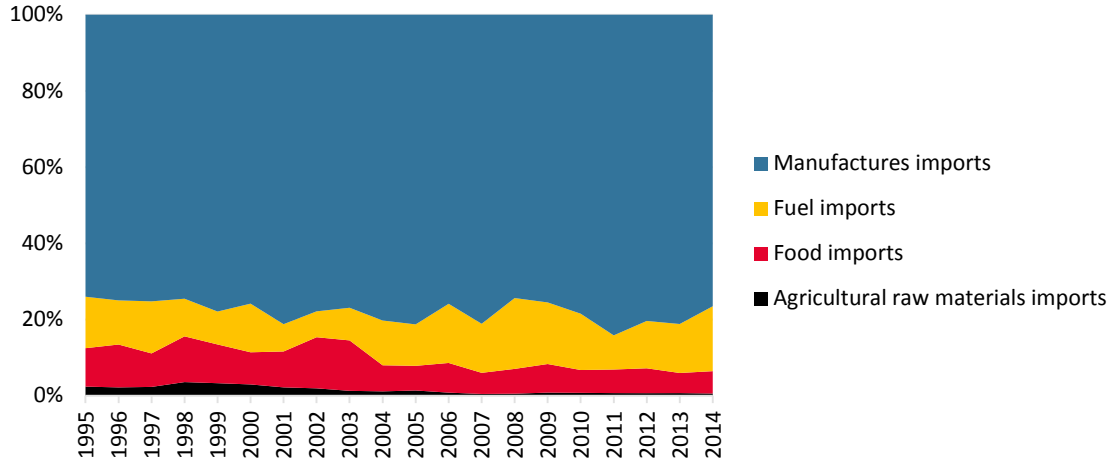
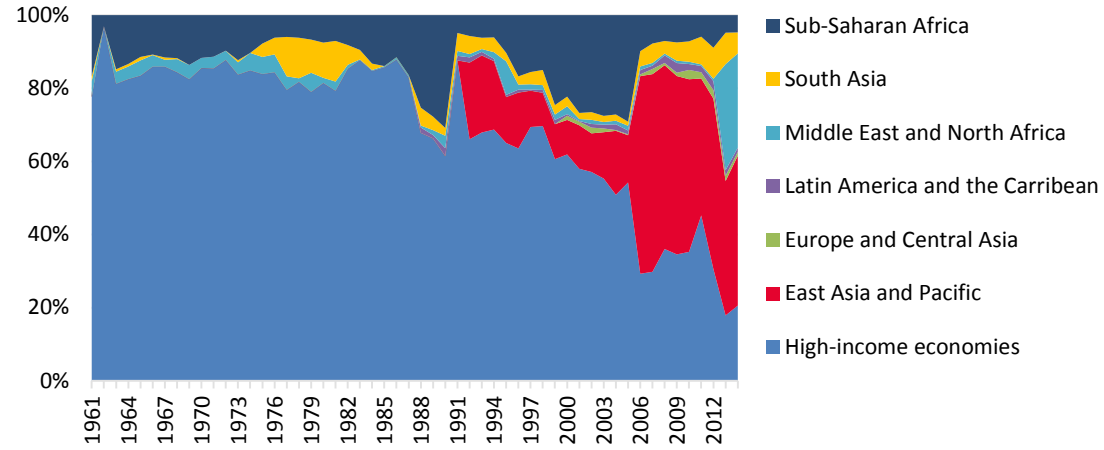


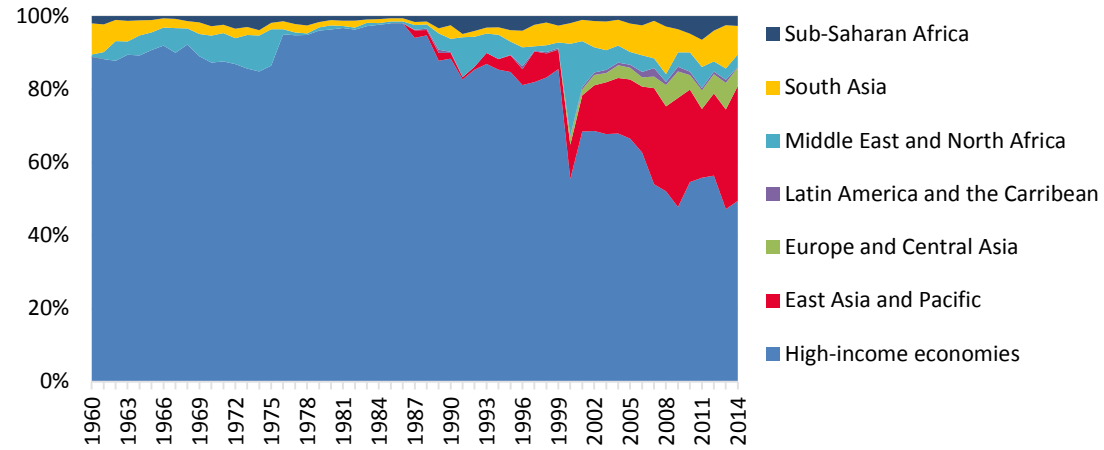
Figure 21: Composition of merchandised imports by product, 1990's–2010's (in %)

Source: World Bank (2016a).

a) Benin



b) Ethiopia



c) Zambia

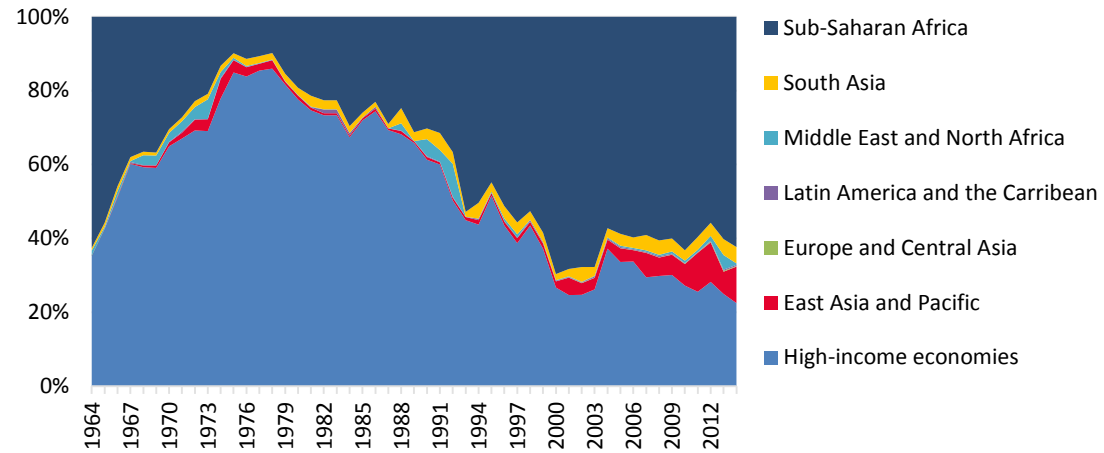


Figure 22: Shares of import values by geographic origin and economic status, 1960's–2010's (in %)

Source: World Bank (2016a).

2.4 Conclusion

To conclude this section, the current state of the agricultural sector in the three countries being examined here is that it is a predominant sector in the Ethiopian economy, an important sector in Benin and a rather small sector in Zambia. In all three countries, however, the agricultural sector is the main source of livelihoods, as it employs a large share of the labour force, even in Zambia where its share in the overall economy is rather small. This suggests that agricultural policies in all three countries have the potential to influence the livelihoods and welfare of a large proportion of their population. But many of the agricultural techniques currently being applied are unsustainable, and the sector is not very socially inclusive in all three countries, though with notable differences. For example, land is very unequally distributed in Zambia and substantially more equally distributed in Ethiopia. Yet, several vulnerable social groups face difficult access to land in all countries. Despite slow growth, the agricultural sector's productivity in all three countries still lags far behind the productivity levels achieved in the rest of the world. The three countries are open to trade, with agricultural products playing an important role in exports for Benin and Ethiopia, while being a minor export source in Zambia. These findings suggest that trade policies have the potential to affect the development of each agricultural sector and, reciprocally, that agricultural policies will influence trade performance, especially in Benin and Ethiopia. Moreover, the composition of trade partners for both imports and exports of the three countries have changed over time. This may reflect trade agreements and other trade-related commitments having played a role alongside changes in comparative advantage. In the next section, we discuss in more detail the trade and agricultural policies implemented in the three countries, followed by a section on their trade agreements and international commitments, before examining the extent to which these policies and trade agreements may have affected the development of their agricultural sectors.

3 Trade and agricultural policies

Trade and agricultural policies in Benin, Ethiopia and Zambia vary significantly from one country to the other. Table 3 shows that the agricultural sector is neither taxed nor supported in Benin, while it is heavily taxed in Ethiopia and subsidized in Zambia. It also shows that non-agricultural sectors in all three countries are more greatly supported than the agricultural sector. Based on the share of agriculture in the public budgets, it appears that there is little public investment in that sector in Benin, while there is more in Ethiopia and Zambia. However, these figures hide a more complex reality. In fact, the trend in support (or taxation) of the agricultural sector over the past decades has not been linear. In both Ethiopia and Zambia, the agricultural sector has been taxed for much of the past half century, while in Benin there has hardly been any support for or tax on the sector in general (Figure 23). Hence, it seems worthwhile to review in more detail country-specific trade and agricultural policies.

Table 3: Main indicators of support to agriculture in Benin, Ehtiopia and Zambia

	Benin	Ethiopia	Zambia
Nominal Rate of Assistance for the agricultural sector	0.00 (2005)	-0.49 (2010)	0.31 (2005)
Nominal Rate of Assistance for non-agricultural sectors		0.14 (2010)	0.05 (2009)
Relative Rate of Assistance for agriculture		-0.55 (2010)	0.25 (2005)
Share of agriculture in the public budget	4.78% (2014)	17.0% (2015)	9.5% (2015)
Agricultural budget expressed as % of agricultural value added	3.78% (2014)	7.4% (2015)	46.3% (2015)

Source: World Bank (2013); World Bank (2016a, c); FAO (2016); Benin Republic (2016); Kuteya et al. (2016); own calculations.

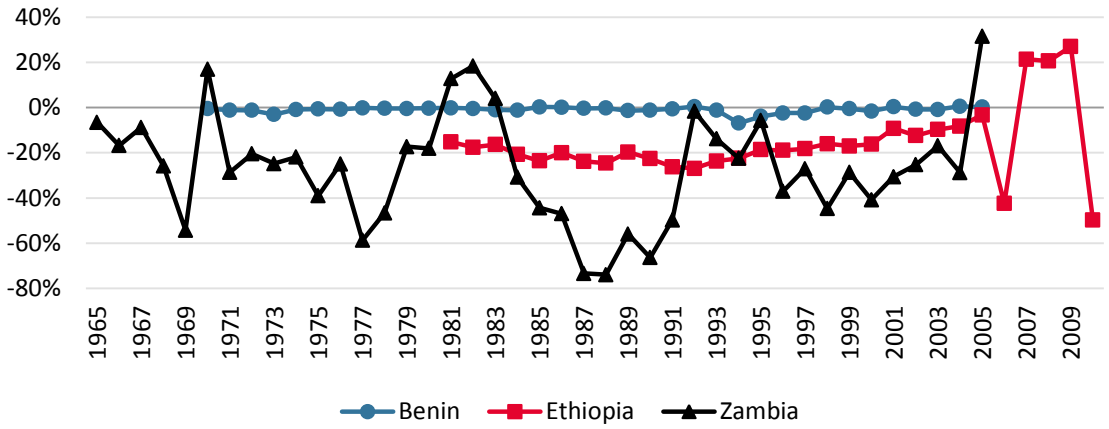


Figure 23: Trends in support (or taxation) of the agricultural sector (Nominal Rate of Assistance), 1960's–2000's (%)

Source: World Bank (2013).

3.1 Trade policies

Trade policies in Benin, Ethiopia and Zambia have followed similar patterns, having in common that they implemented trade reforms attached to structural adjustment programs in the 1990's with the aim of liberalizing their economies and improving competitiveness. In Benin, the reforms chiefly targeted the removal of policy-induced trade distortions and the subsequent withdrawal of the state from marketing activities. Trade-friendly reforms involved lifting import bans and quotas, simplifying the tax structure and converting most specific tariffs into *ad valorem* taxes (Decaluwe and Robichaud, 2008) Another dimension of these reforms targeted the exchange rate, which had overvalued the domestic currency. In Ethiopia, liberalization efforts also took place, with the state withdrawing from marketing activities and devaluing the local currency to promote an export-oriented economy (Hailegiorgis, 2010). In Zambia as well, tariff reduction, removal of price controls, liberalization of the foreign exchange rate and re-establishing relations with multilateral agencies took place (Avisse and Fouquin, 2001). As depicted in Figure 24, import and export taxes comprise a substantial share of government revenue in all three countries. Most of the taxes on international trade actually come from import duties, which make up a great share of government tax revenue (Figure 25).

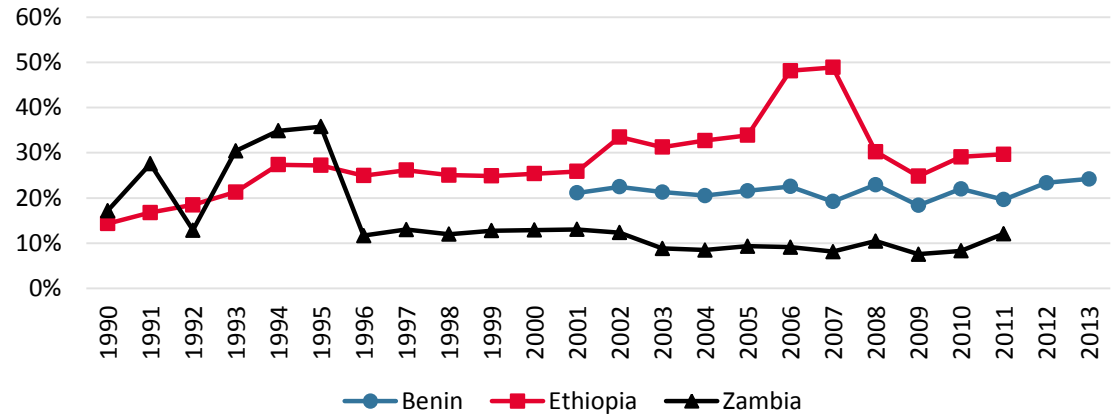


Figure 24: Import and export taxes, 1990's–2010's (% of government revenue)

Source: World Bank (2016a).

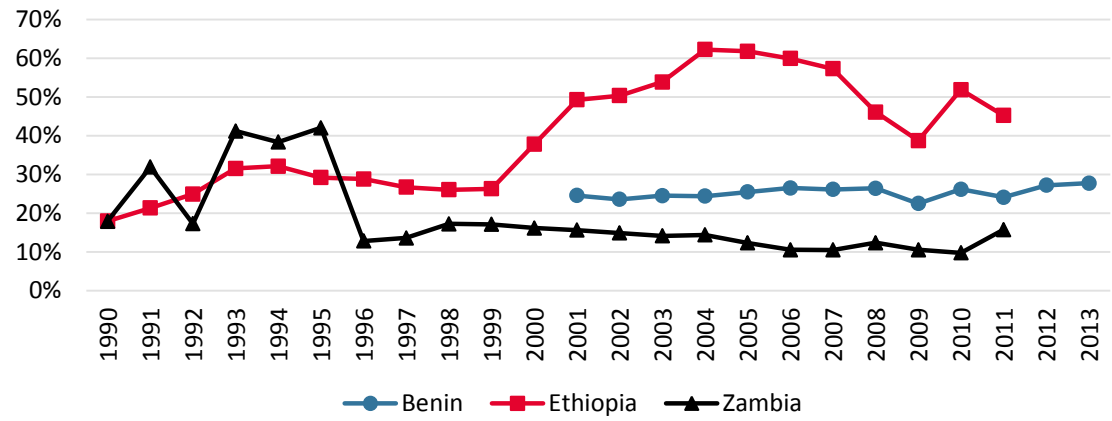


Figure 25: Customs and other import duties, 1990's–2010's (% of tax revenue)

Source: World Bank (2016a).

Regarding integration into international trade agreements, there are notable differences between the three countries. While Benin and Zambia have been highly involved in regional integration efforts that have shaped their recent trade policies, Ethiopia has committed itself less to regional trade agreements. Benin is a member of the West African Economic and Monetary Union (WAEMU), which is a working customs union and common market. Consequently, the majority of its policy instruments have been harmonized towards the WAEMU (WTO, 2010), and since 2000 it has applied the WAEMU common external tariff[5], rules of origin as well as other trade regulations. Zambia, as a member of the Common Market for Eastern and Southern Africa (COMESA) and the Southern African Development Community (SADC) agreements, has taken major steps towards reducing tariffs and liberalizing trade policies[6]. Meanwhile, Ethiopia has

5 WAEMU common external tariff book: http://www.izf.net/content/tarifs-douaniers-en-afrique-louest

6 Zambia tariff book: https://www.zra.org.zm/commonHomePage.htm?viewName=TariffGuide

finalized its accession of the COMESA Free Trade Area (FTA) regulations, employing a phase-to-phase approach where trade areas were classified into three main groups, based on their level of competitiveness within the FTA: namely, extremely sensitive, upon capacity building and uncompetitive. This classification determines the tariff level associated with each trade area. Ethiopia implements COMESA's common external tariff[7], ranging from 0% on raw materials and capital goods to 10% and 25% for intermediate and finished products, respectively. Because of their membership in the WTO since its inception, and their status as least developed countries, Benin and Zambia have high tariff bindings, but their applied Most Favoured Nation (MFN) tariffs, which apply to other WTO members, are rather low (Figure 26). Ethiopia, not being a member of the WTO, has no tariff bindings, but still its applied tariffs are low on average. The finding that the country's weighted average tariff is lower than the simple average is an indicator that high tariffs are acting in a restrictive manner, resulting in the value share of commodities on which high tariffs are imposed being relatively small (Figure 27).

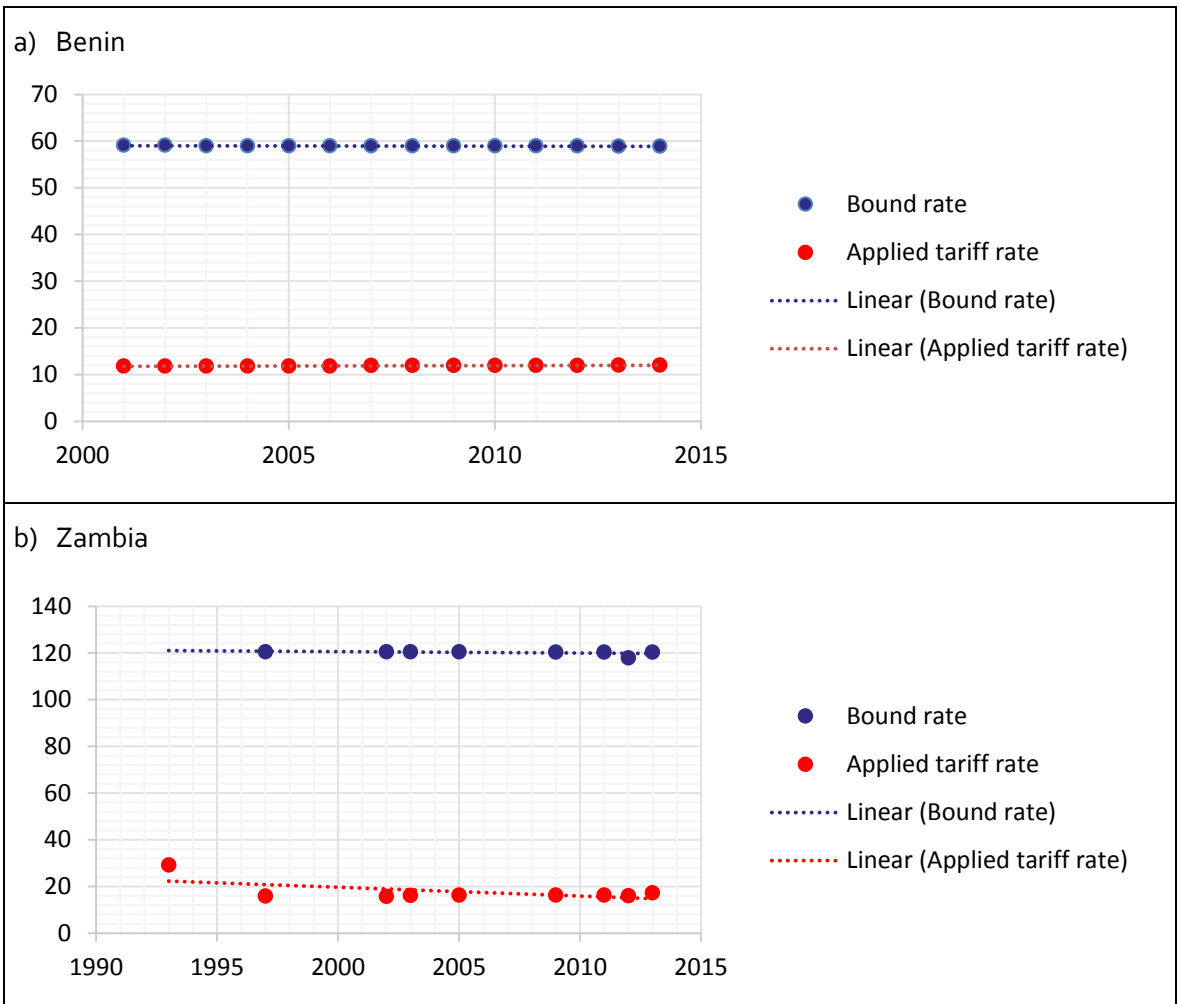


Figure 26: Bound and applied Most Favoured Nation tariff rates, simple average for agricultural products, for Benin and Zambia, 1990's–2010's (in %)

Source: World Bank (2016a).

7 Ethiopian tariff book: http://www.erca.gov.et/index.php/search-hs-code?view=hscode

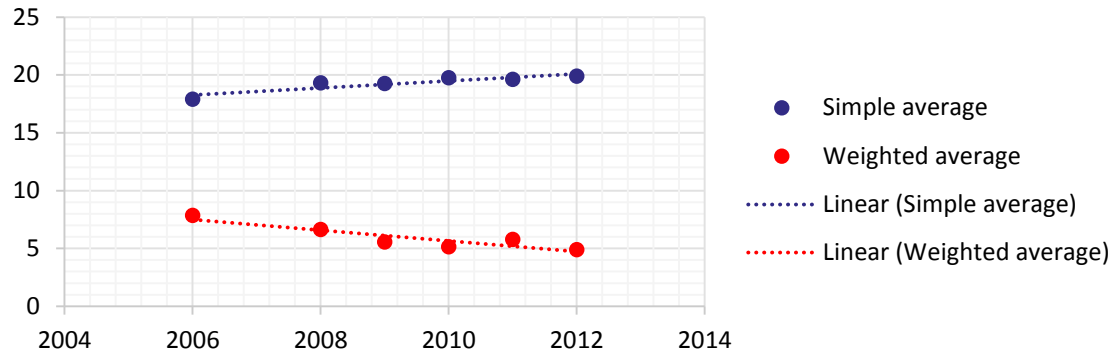


Figure 27: Trend in average applied tariffs on agricultural products in Ethiopia

Source: World Bank (2016a).

3.2 Agricultural policies

From our perspective, a key ingredient for understanding the current state of agricultural policies in the three countries discussed here is the historical development of their agricultural sectors, which exhibit country-specific patterns.

3.2.1 Benin

In Benin, prior to the colonial era, palm oil plantation was introduced and promoted by the former Dahomey Kingdom (which became present-day Benin), constituting its main export commodity to the rest of the world (Fournier et al., 2000). During the colonial era and after independence, palm oil production still played a major role in Benin's economy, until the whole set-up collapsed at the end of the 80's, with palm oil prices on international markets plunging. It is worth noting that from 1974 to 1989, the country was ruled by a centrally planned regime, which nationalized the palm oil industry and promoted collectivization of farms. However, this shift in agricultural policy did not bring much productivity growth to the sector. Instead, the state monopoly over the sector led to it becoming a high-cost industry, with inefficiencies all along the chain (Floquet and Mongbo, 1998).

Following the collapse of the palm oil industry, cotton, which was introduced during the colonial era, emerged as the commodity with the highest export potential. Starting from the late 80's, a number of policies were put in place to promote cotton, and an attractive set-up was created to motivate farmers via input credits, pre-fixed prices and other incentives. In 1983, a government parastatal called the National Agricultural Promotion Company (SONAPRA) was set up and given a monopoly over the provision of inputs for and marketing of cotton (WTO, 2010). As a result, cotton production surged (Minot and Daniels, 2005). Following above-mentioned trade reforms in the 1990's, and implementation of the associated structural adjustment programs, the government withdrew from most support activities, especially extension services, input provision and access to finance. For example, SONAPRA's input-supply operations were gradually privatized between 1993 and 2000. Starting in 2008, its industrial branch, including cotton-ginning,

was transferred to a new entity primarily owned by the private sector. Its purchasing monopoly for agricultural output (including seed cotton) was also dismantled. As a result of these reforms, provision of services such as inputs, extension, and credit disappeared almost completely for all agricultural commodities, except for cotton, which was better organized and more profitable for the private sector. Only in recent years has the government resumed significant provision of irrigation facilities and extension services for all agricultural commodities. With the setting up of the Agricultural Inputs Purchasing Pool in 2008, provision of inputs to agricultural commodities other than cotton also resumed (WTO, 2010).

For export diversification purposes, other commodities for which Benin may have a comparative advantage were identified and their value chains promoted. However, cotton remains the country's main export, and the institutional framework needed to promote other chains is still lacking. Cotton, as the country's single most important export product, has been taxed for most of the period since its promotion (Baffes, 2009). Yet, due to a number of organizational problems in recent years, its production has needed support from the government to keep it afloat. Consequently, taxes from cotton have been outweighed by support for cotton coming at the expense of other agricultural commodities, such that the agricultural sector on average receives no substantial support (World Bank, 2013).

Another important government policy in the agricultural sector in Benin has been an effort to secure and raise producers' income through the National Agricultural Income Support Board (ONS). This government body was set up in 1987, initially to support producers of seed cotton and guarantee them a profitable and attractive price. In 1996, its scope of work was revised to comprise other agricultural subsectors and encourage effective diversification of agricultural products for export (WTO, 2010). Following the adjustment programs and the shift from price-stabilization policy to free-market price policy, the ONS's scope of work was reoriented towards facilitating producers' access to financing, promoting agricultural insurance and improving price transparency. The ONS follows price trends for agricultural products and provides farmers with information to help in determining their purchase prices. It also contributed to the setup of the Mutual Agricultural Insurance of Benin (AMAB), which was created in 2007 and started its activities effectively in 2009. The ONS also developed the framework for the National Fund for Agricultural Development (FNDA), which is intended to finance the agricultural sector and contribute towards resolving problems such as the high cost of capital compared to internal profitability of the sector, the lack of proximity of financial services and the stringent formalities that must be gone through for obtaining loans. Although the FNDA was officially created in 2014, because of a lack of funds, its activities are still not well developed. Finally, the ONS prepared the framework for the National Fund for Agricultural Calamities (FNBGCAB), which is expected to finance projects to prevent agricultural calamities as well as compensate farmers for the kinds of calamities (drought, floods, insect invasions, etc.) not supported by the regular insurance schemes offered by the AMAB (ONS, 2016). To date, the FNGCAB has not yet been officially launched. Despite some tangible outcomes, especially the creation of the AMAB, the ONS and the government have not, on the whole, provided much support for farmers' incomes (CIEMD, 2012). This is also evidenced by the neutral nominal rate of assistance of the agricultural sector (see Figure 23).

In 1992, the Benin government created the National Office for Food Security (ONASA), a body which administers buffer stocks for staples, such as maize, yam, and cassava. The ONASA buys

products from markets around the nation by announcing their collection on the radio, defining the criteria for participation, specifications for the product, place of delivery and purchase price. This is mostly done soon after harvest time, giving farmers a floor price and avoiding prices falling too low. If there is a serious shortage and the supply chain is broken, ONASA sells its stocks at subsidized prices on markets in shortage regions (WTO, 2010). Hence, it participates in stabilizing prices within a certain range.

In a move to reform the agricultural sector, the Benin government decided on November 30, 2016 to dismantle several of the bodies involved in its complex agricultural sector, namely SONAPRA, the Agricultural Inputs Purchasing Pool, ONS, ONASA, and agencies in charge of promoting irrigation and agricultural mechanization. The plan is to transfer their activities to a new body, the Territorial Agency for Agricultural Development, for efficiency reasons. While this reform is yet to be implemented, there are concerns about overlap between this new entity and the existing territorial divisions of the Ministry of Agriculture.

3.2.2 Ethiopia

Following the fall of Ethiopia's centrally planned regime in 1991, the government implemented several agricultural policy reforms under structural adjustment Programs. These reforms included trade liberalization and deregulation of prices, abolishment of price controls and quota-rationing systems, currency devaluation, tight fiscal and monetary policy, privatization of unprofitable large state farms, as well as liberalization of the labour market. Nonetheless, land continues to be public property with limited usufruct right (Deininger et al., 2008), and subsidies have remained in place for food items and agricultural inputs (Spielman et al., 2010). The government has always been involved in input procurement, although some private importers and dealers have been allowed to enter the market. Government is also involved in fertilizer-stockholding programs, which are however seen as expensive and ineffective in stabilizing prices (Agbahey et al., 2015a).

Identification and prioritization of selected crop and livestock products for export was also part of the agricultural development strategy in the late 1990's. During high-price periods, control of retail prices and export bans have been introduced. For example, export bans were imposed on sorghum, wheat and maize in 2006 and lifted in 2010 after a good harvest. To coordinate exports, a state company was created, with the purpose of shortening the value chain by skipping intermediaries. To address soil erosion, the main policy designed in 2013, and for which a pilot phase has already been completed, is the fertilizer-blending program (Agbahey et al., 2015b). Its aims include reducing dependency on imported fertilizer, source fertilizer nutrients domestically and reduce soil and fertility degradation by supplying farmers on-demand with specific nutrient blends.

3.2.3 Zambia

In Zambia, under the British mandate, there was little focus on smallholder agriculture. During that time, rural communities basically supplied labour to the mining sector and to large-scale farms established by settlers (Scott, 1995). Separation between settlers and local communities did not allow advanced technologies to be passed on from the former to the smallholder farmers

among the latter. Following independence, all economic activities were nationalized and farms were collectivized (Fundanga and Mwaba, 1997). The government introduced several support policies for agriculture: mostly subsidies for maize that were financed with copper-export revenues. The objective of such subsidies was to keep staple food prices low for urban consumers while providing incentives for rural farmers to produce (Jayne et al., 2009). The subsidies led to a substantial allocation of farm resources to maize and mono-cropping. In the mid 70's, following the collapse of copper prices on international markets, the government was forced to cut back on several subsidy programs but maintained fertilizer and maize subsidies for national food security purposes. Although the domestic currency was eventually devalued, it was not carried out to the extent necessary to make agricultural exports viable and, thus, the inflated currency restricted exports from the agricultural sector throughout the 1980's. From 1985–1987, the government began to auction foreign exchange but reversed the policy at the end of the 1980's. Economic reform began in earnest after the Movement for Multiparty Democracy (MMD) took over from the Kaunda regime in 1991 (Avisse and Fouquin, 2001) and implemented the Economic Reform Program (ERP), which emphasized economic liberalization.

Zambia has initiated five distinct phases of fertilizer subsidies in an attempt to increase the productivity of agriculture (Jayne et al., 2009). During the first phase (1991–1993) the government appointed state-affiliated banks and credit unions to provide credit for fertilizer. However, after minimal repayment rates, the government was forced to modify the program. During the second phase, the government appointed a limited number of private firms to import fertilizer and supply private retailers on credit. There were some issues of corruption associated with private sales and a low repayment rate of between 20 and 30% during this phase (1994–1996). The third phase (1996–1999) saw the government design a state run organization, the Food Reserve Agency (FRA), to import and distribute fertilizer to private agents. In the fourth phase, because of pressure from international donors, the government of Zambia modified this program and contracted large private companies to import and distribute fertilizer to cooperatives. In the fifth phase, due to issues of non-transparency in the selection process under the FRA scheme, in 2002 the government put in place the publicly managed Fertilizer Support Program. By 2007, expenditure on the program accounted for 30% of total budget of the Ministry of Agriculture and Cooperatives (World Bank, 2010), and it has recently been renamed the Farmer Input Support Programme (WTO, 2016). In a recent report by the Food and Agriculture Organization of the United Nations (FAO) analysing fertilizer subsidies under structural adjustment programs, it has been found that Zambia has by far the largest fertilizer application rate in all of Africa (Druilhe and Barreiro-hurlé, 2012). Thus, despite criticisms related to the trade distortions associated with the fertilizer policy as well as its benefits mainly accruing to large farmers (Howard and Mungoma, 2016), this policy has been seen by many as a success story in agricultural development in Africa.

Currently, the government allocates more than 60% of agricultural expenditure to maize input and output subsidies (Hichaambwa and Jayne, 2014; Kuteya et al., 2016), the effects of which on Zambian agriculture have been controversial. Through the National Agricultural Marketing Board, the government subsidises seed and fertilizer (Jayne et al., 2011). As a result of increased productivity in the agricultural sector as well as favourable weather conditions, Zambia became the leading exporter of maize in the SADC region for the year 2016 (Chisanga and Chapoto, 2016). The recent El Niño that affected Southern Africa in 2014 and 2015 has had a strong influence on the majority of maize-producing nations except Zambia, allowing it to become the larg-

est surplus-producing country in the region. Due to its location, Zambia has been ideally located to supply the surrounding countries, which have experienced production deficits due to adverse weather conditions.

Due to concern over food security at the end of 2015, partially fuelled by the media and the upcoming national election in 2016, the government decided to subsidize wheat millers and put in place export restrictions on maize (Chisanga and Chapoto, 2016). Consequently, the market price for maize had risen substantially by February 2016. The ban on exports was partially the result of millers illegally exporting subsidized wheat to neighbouring regions and fear of food insecurity. These policies have been welcomed by wheat millers and some agricultural sectors, such as the dairy industry and other livestock production sectors, but the restrictions also have the potential to harm maize producers.

3.2.4 Land tenure systems

In all three countries, traditional land tenure systems have prevailed for most of the past, and more recent implementation of land reforms has followed different trajectories. In Benin, although land is officially the property of the state, in practice it is a private good that is subject to customary land tenure rules, under which distribution remained unequal, and access to land was limited for those having only secondary rights, such as women and migrants (Hilhorst et al., 2011). The Rural Land Act No. 2007-00 was passed to secure land tenure and facilitate investment in the agricultural sector but despite significant financial support from aid partners[8], the production of land use and tenure maps is still marginal (MAEP, 2011).

In Ethiopia, land reforms have been handled differently. Between 1976 and 1991, during the centrally planned regime, all farmland in most of the highland areas was distributed equally on a per capita basis. This reform helped the most vulnerable to get access to land and contributed towards improving incomes for smallholder farm households (Deininger et al., 2008) as well as achieving a relatively equal distribution of rural income. Later on, in an attempt to promote land rights in local communities, land certification was implemented to secure access to land for the most vulnerable farmer categories. However, it has been argued that female-headed households, one of the most vulnerable groups, have only moderately benefited from that program (Bezabih et al., 2010). Moreover, problems remain with the communal land system in Ethiopia's lowlands, affecting pastoral livelihoods.

Land reform in Zambia goes back to the Land Act of 1975, under which the government abolished all freehold land titles, converting them into statutory leaseholds, as well as expropriating all absentee land for the state. However, there remained a system of customary land tenure throughout the country. In 1995, a new Land Act entered into force, providing the government with the authority to convert land into state land after consulting local chiefs for prior consent. Therefore, investors need to go through the government in order to obtain land, which must first

8 The process of producing tenure maps was initiated in 1991, with the support of the French Development Agency (AFD), the German Development Cooperation (GIZ), and the World Bank (Edja and LeMeur, 2004). In 2006, the rural landholding plan also received significant support from the USDA through the Millenium Challenge Corporation (MCC), with the first compact grant of US$307 million being in part dedicated to the access to land project (Karl and Richter, n.d.).

be converted from customary into state land beforehand. Ng'ombe and Keivani (2013) claim that the conversion of customary land into part of a leasehold system has attracted a large inflow of foreign direct investment but has done very little to incentivize smallholders to improve agricultural land, nor has it reduced rural poverty rates. In fact, the authors point towards a rise in poverty rates: from 73% in 1997 to 85% in 2007.

4 International trade policies affecting Benin, Ethiopia and Zambia

4.1 Regional trade agreements

There is a multitude of regional organizations in Africa with a variety of specific focuses, among which trade is an important one. The small size of many African economies has deterred trade and investment away from the continent (Calderisi, 2006). Thus, membership in larger organizations that can provide opportunities to reach larger markets is appealing. Benin participates in two regional free trade agreements: the West African Economic and Monetary Union (WAEMU) and the Economic Community of West African States (ECOWAS). Ethiopia is a member of the Common Market for Eastern and Southern Africa (COMESA), although it has not acceded to any customs union or free trade area. Zambia is a member of two large regional trade agreements, including COMESA and the Southern African Development Community (SADC).

Out of all these communities, only WAEMU is a full customs union with a single market. However, since the introduction of the WAEMU Common External Tariff (CET) in 2000, a number of legislative texts have been adopted, but their implementation is still far from complete. In areas such as technical barriers to trade and measures to promote trade and export restrictions, there is still room for harmonization at the community level (WTO, 2010). ECOWAS, which includes the WAEMU countries and seven non-WAEMU countries, has been a free trade area since 2000, although the free trade agreement is not yet effective in practice (ECOWAS, 2016a). Tariff and non-tariff barriers continue to block the development of trade within the region, and unofficial cross-border trade is predominant (ECDMP, 2006). To date, the ECOWAS CET, which mirrors the WAEMU one and, hence, is already in place in the WAEMU countries, has been implemented only by two non-WAEMU countries. This points to harmonization problems within the zone, not only regarding the CET but also non-tariff barriers to trade, rules of origin, and the like. Other ECOWAS initiatives to promote intra-regional trade, such as construction of connecting road infrastructure and expansion of trade in electricity, are being hindered by a lack of financial resources.

COMESA was put in place to eliminate trade barriers, including non-tariff barriers as well as setting a CET for trade with all third-party countries. SADC aims at the establishment of a free trade area, a customs union, and a common market and also has the target of establishing a monetary union. There has been some convergence of policies between COMESA, SADC and East Africa Community (EAC) in anticipation of the free trade agreements between these three parties (Tripartite Free Trade Area, TFTA). The main objective is to address some of the issues surrounding membership in multiple agreements that may cause issues within the WTO structure, to create greater trade facilitation on the African continent through harmonization of standards (Lunogelo and Mbilinayi, 2009). During a COMESA–SADC–EAC summit in Kampala (October 22, 2008), representatives agreed to work towards greater convergence of their respective markets through various initiatives. There is concern, however, amongst some of the smaller African countries that further integration will force them to reduce trade barriers that protect their key industries,

which may eventually cause those industries to migrate to other countries within the union. This is one concern for Zambia regarding the integration of COMESA and SADC.

Despite the great number of regional trade agreements on the continent, regional trade integration remains for the most part unofficial and poorly organized. Intra-regional trade for all of the cited regional communities is hampered by institutional, regulatory and infrastructural constraints. Regulatory cooperation and greater coordination of standards and certification procedures would go a long way towards improving market access and reducing the current level of Non-tariff barriers restricting trade within the region. Furthermore, except for the WAEMU and the ECOWAS, where overlapping membership does not seem to be a problem, in the cases of Ethiopia and Zambia overlapping memberships in various agreements, and the diverse nature of the economies of the members, has led to great variance in the economic policies pursued by the group at large (Jephias and Loveness, 2014).

4.2 Economic Partnership Agreements and the African Growth and Opportunity Act

The three countries being discussed here participate in the African Caribbean and Pacific–European Union (ACP–EU) Partnership Agreement that provides for trade cooperation and a preferential trade regime for ACP-country exports to the EU market. In 2014, as part of the WAEMU/ECOWAS region, Benin signed an EPA with the EU, while Ethiopia and Zambia, as countries of the Eastern and Southern Africa (ESA) grouping, are still negotiating an EPA with the EU. The EPA signed by WAEMU/ECOWAS focuses on trade and development and promotes the regional integration process in West Africa (European Commission 2015), ensuring that products originating in West Africa can be imported into the EU free of customs duties, with some exceptions. On its side, the West African region must progressively reduce and eliminate customs duties applicable to products originating in the EU. Benin has signed the agreement but has not yet ratified it. This may be a strategy to delay the agreement coming into force, as with its implementation tariff revenues collected by the government will be significantly reduced, without alternative sources to compensate for the loss having been sufficiently developed. In fact, the EPA is backed with an aid for trade program financed by the EU, but some experts have argued that the volume of aid could not compensate for the expected loss in tariff revenues, which comprise about one quarter of the Benin government's budget (ECDMP, 2006). Moreover, as a Least Developed Country (LDC) like Ethiopia, Benin already has duty-free access to the EU market via the "Everything but arms" (EBA) initiative. Hence, there might not be sufficient incentives for Benin to ratify the agreement and for Ethiopia to sign it at all, unless their LDC statuses were to be revoked in the course of economic development. Zambia, as a lower middle income economy, may have more incentive to sign the EPA with the European Union, as it does not benefit from the EBA initiative. A problem that comes with EPAs, however, is that they may end up working, under certain conditions, against regional integration, because not all members of different regional communities have LDC status. Hence, the ones that do not have it are more likely to sign an interim EPA with the EU, like Ivory Coast has done. This has the tendency to weaken regional free trade agreements and the implementation of a CET for them, because of incompatibility between EPA preferential tariff rates and CET ones.

Benin, Ethiopia and Zambia are all participants in the African Growth and Opportunity Act (AGOA), which is a trade law initiated by the US in 2000 that enhances market access to the US for qualifying sub-Sahara African countries. It initially covered only eight years, up to 2008, but has been extended to 2025 (AGOA info, 2016). The AGOA regime is accompanied with development aid through the Millennium Challenge Corporation (MCC), created by the US Congress in 2004. Benin has so far been awarded two MCC compact grants, in 2006 and 2015. The first grant of US$307 million was designed to expand its major seaport, promote land security, improve access to capital, and create a more efficient judicial system (MCC, 2016a). The second of US$375 million aimed at strengthening the national utility service provider, attract private sector investment, fund infrastructure investments in electricity generation and distribution, and develop off-grid electrification for poor and unserved households (CIA, 2016). The value of these grants is significant, as the two put together make up about 8% of the annual national GDP in 2015 or about 50% of the government's annual budget in 2015. Zambia has not yet been awarded any MCC compact grants but has been given a threshold program grant of US$22 million to improve governance and combat administrative corruption (MCC, 2016b), though this grant represents a tiny share of the government's budget. By contrast to Benin and Zambia, Ethiopia has not yet been granted any MCC grants. Critics of the AGOA have argued that benefits have been uneven in terms of both products and countries. Under the AGOA, US import growth is predominantly driven by oil and gas from Nigeria and Angola (Suruma and Lewis, 2010). Although the highest potential for poverty reduction lies in the agricultural sectors of most sub-Saharan African countries, AGOA's impact on agriculture there has been very limited. Several factors have played a role in limiting such effects, which will be discussed here with regard to the example of cotton. First, US agricultural subsidies have reduced the competitive advantage of Africa's agricultural products under AGOA. Under the US 2014 Farm Bill, the subsidies granted to cotton farmers are estimated to amount to 41.5% of the market value of US cotton production (Lau et al., 2015). Hence, these subsidies have the effect of increasing US production, boosting US cotton exports, and reducing the world market price by 6.9% (Lau et al., 2015). Due to the size of the US cotton sector, this affects many producers in other parts of the world, especially in sub-Saharan Africa, such as countries like Benin, which otherwise have a comparative advantage in producing and exporting cotton. Second, African exports to the US face non-tariff barriers, arising from the export approval process (Asmah and Taiwo, 2010).

Beside trade agreements with the EU and the US, each of the countries discussed here also have regional or bilateral trade agreements with various partners such as China and the Southern Common Market (MECOSUR).

4.3 World Trade Organization (WTO) commitments

Benin and Zambia are members of the World Trade Organization (WTO), while Ethiopia is still in the process of negotiating its accession. Hence, Benin and Zambia both have access to all WTO-member markets at most favoured nation (MFN) rates and grant all WTO members MFN access to their own markets. Both Benin and Zambia have high tariff bindings and, consequently, are currently applying a much lower average tariff rate for agricultural products compared to their allowable tariff rates. The current simple average applied rate for agriculture is 16% and 19% for

Benin and Zambia, respectively, while their simple average tariff binding rates are 62% and 123%, respectively (WTO, 2016). Thus, both Benin and Zambia have substantial "water in the tariff" for allowable agricultural support and are not subject to actual reduction requirements. As members of the WTO, Benin and Zambia have filed some notifications, but they remain incomplete (WTO, 2010). A suggestion to improve such a situation is for Benin and Zambia to adopt a systematic joint notification procedure with other countries, such as fellow members of their regional trade agreements, to keep their notifications up to date more efficiently and at lower cost (WTO, 2010). As for Ethiopia, although the country is involved in accession negotiations, the relevant question is whether WTO membership could provide it with more benefits than costs. The country already has favourable trade agreements with its main trade partners and enjoys the benefits of the "Everything But Arms" and AGOA. Hence, additional benefits from WTO membership look small compared to the cost of losing policy space through MFN treatment of all WTO members. This, however, depends on the results of accession negotiations of Ethiopia regarding potential tariff bindings.

4.4 Trade policies of other countries

Benin, Ethiopia and Zambia are affected in various ways by the trade policies of other countries. Benin is affected by the trade policies of its neighbours, as it is a major corridor for goods being transported between Nigeria and the Sahel countries (Niger and Burkina Faso). The main effect here comes from Nigeria, which due to its large size strongly affects Benin's policy framework. Moreover, while Benin is part of the WAEMU customs and monetary union with Burkina Faso and Niger, this is not yet the case for Nigeria. Historically prohibitive tariffs in place in Nigeria, combined with the fact that the borders are porous, have triggered the smuggling of goods from Benin to Nigeria (Agritrade, 2014). More recently, the scale of re-exports and competition with Nigerian domestic production led the Nigerian government to take action and impose restrictions on trade with Benin. The effects of these trade restrictions by Nigeria were deeply felt in Benin, contributing to a downturn of its economic growth (WTO, 2010). Finally, a memorandum of understanding was signed between Benin and Nigeria to enforce border controls and reduce smuggling. Yet, despite the memorandum, informal re-export is still widespread (WTO, 2010). Benin also sources about 85% of its petroleum needs informally from Nigeria, taking advantage of fuel subsidies in place there (World Bank, 2016b). The sourcing of petroleum through unofficial channels has contributed to low inflation levels in Benin for years. However, more recent attempts by the Nigerian government to drastically reduce or even abolish fuel subsidies have strongly affected the Benin economy.

As landlocked countries, Ethiopia and Zambia are influenced by policies and relationships with their neighbouring countries. Ethiopia had to switch its route to international markets from Eritrean ports to the Port of Djibouti, due to its conflict with Eritrea. But congestion problems at Djibouti have affected Ethiopian trade (World Bank, 2011). As for Zambia, the main transport network for its copper exports are south through Zimbabwe and South Africa, east through Tanzania and west through the Democratic Republic of Congo. Trade relationships with the Democratic Republic of Congo and South Africa are very important, because these countries also purchase large amounts of copper ore from Zambia to re-export as raw material or in the form of

copper wire and other manufactured goods. Consequently, any deterioration in these trade relationships is bound to have a negative effect on the Zambian economy. The implementation of non-tariff barriers by some neighbouring countries also affects its trade performance, such as non-tariff barriers that hinder trade relationships between Kenya and Zambia for raw milk and pure palm-based cooking oils (COMESA, 2016). In general, for all three countries being studied there is legislation stipulating harmonization with neighbouring countries to achieve better integration and increase trade volumes. Since all these countries intend to be, at some point, fully integrated with their neighbours through free trade agreements and customs and monetary unions, more harmonization is intended to facilitate trade and prevent smuggling. Applying a harmonized common external tariff has the potential to stimulate internal production and intra-regional trade, which has a high potential to induce growth.

5 Effects of current policies on environmental sustainability, social inclusion and competitiveness

5.1 Overview and general conclusions

The three countries observed here are quite different in terms of the extent to which they are pursuing and able to reach environmental sustainability, social inclusion and competitiveness goals for their agricultural sectors.

Looking at the overall investment levels of the three governments in their agricultural sectors, we can conclude that

- The overall political support for agriculture, as measured by the Nominal Rate of Assistance (NRA), has for most of the past been negative for Zambia and Ethiopia, with their agricultural sectors generally being taxed instead of supported. In Benin, by contrast, support to agriculture is outweighed by taxation, such that the NRA is close to zero (see Figure 23).
- In terms of budgetary contributions, Ethiopia scores highest with about 17% of its public budget being spent on agriculture in 2015, while it is lower for Zambia (about 9.5%) and Benin (around 4.8%) (see Table 3). In relation to the economic size of the respective agricultural sectors, however, Zambia scores highest (9.5% of budget compared to 5.3% of GDP) followed by Ethiopia (17% of budget compared to 41% of GDP) and Benin (4.8% of budget compared to 23% of GDP).

Looking at social inclusion, we find that

- Zambia has the highest level of income inequality, which has been increasing since 1996 and reached a level of 0.55 in 2010. Income inequality is substantially lower in Benin and especially in Ethiopia, with Gini coefficients of around 0.4 and 0.3, respectively.
- Rural poverty – measured as % headcount ratio at national poverty lines and relative to 100% of rural households – is highest in Zambia, reaching 78% in 2010, although urban poverty strongly declined over the same period. In Benin, rural poverty has been quite stable since 2006, at about 39%. Meanwhile, Ethiopia has made impressive progress, with the rural poverty headcount declining from 47% in 1995 to 30% in 2010.
- The success story of Ethiopia is in line with the strong reorientation of government policies towards social and pro-poor sectors (World Bank, 2016a, c.).
- Although the share for agriculture in the public budget is relatively high in Zambia, about 60% of that budget is allocated to fertilizer subsidies and, in total, about 80% is allocated to fertilizer and output-price support for maize alone. Furthermore, Hichaambwa and Jayne (2014) find that a substantial share of the benefit from these subsidies has been captured by

wealthy farmers. Kuteya et al. (2016) argue that agricultural policy in Zambia should put a greater focus on poverty reduction and the provision of public goods to the poor so as to help them overcome asset restraints.

- Large-scale foreign investments in land often benefit from liberal trade policies related to the import of international inputs and export of final products. But their benefits for domestic sector development often lag behind expectations and, consequently, local populations may even be negatively affected, such as in Ethiopia (Alamirew et al., 2015; Rahmato, 2011).

Looking at environmental sustainability, it is difficult to draw general conclusions, given the various dimensions of each of the environments of the countries under examination, very limited data availability and the overall scope of this study. However, we may say that

- Generally, the average use of fertilizers is far below recommended rates to avoid soil mining, especially in Benin and Ethiopia.

- Strong incentives for growing specific crops may sometimes create environmental problems associated with monocropping. For example, a study by Mofya-Mukuka and Hichaambwa (2016) investigates the factors influencing smallholder crop diversification in Zambia and finds that the actions of the Food Reserve Agency (FRA) and the Farmer Inputs Support Program (FISP) have negatively affected crop diversification. The authors suggest that more emphasis should be placed on providing quality extension services that focus on climate-smart agriculture and agricultural diversification. In Benin, environmental problems may be caused by intensive cotton production, especially in the North of the country (Glin et al., 2006).

- The fact that 60% of the agricultural budget of Zambia is still being allocated to fertilizer subsidies is contrary to some of the goals of the national agricultural programme, including the promotion of conservation farming and other sustainable agricultural practices (Shitumbanuma et al., 2015).

Looking at competitiveness and access to regional markets, we find that

- All three countries have shown considerable economic growth of, on average, 7% per year in the period from 2004 to 2015 (World Bank, 2016a). Also, their agricultural sectors have grown considerably over the last five years, with average annual rates from 1% (Zambia) to 7% (Ethiopia) (Figure 5).

- All three countries have low yields and low input use compared to world averages and, thus, strong potential for their agricultural sectors to become more competitive. Zambia has the most intensive agricultural sector among these countries, with higher fertilizer and higher machinery use, but the structure of the Zambian agricultural sector is dual: about 50% of farmers farm less than 1 ha (see Table 2) and more than 70% of agricultural smallholders live on less than US$1.25 per day (Kuteya et al., 2016).

- Regional trade integration is still limited for all three countries. Although they are members of regional trade agreements (WAEMU, ECOWAS, COMESA, and SADC, see above), none of these agreements is fully functional yet. While WAEMU is a well-functioning customs and

monetary union, intra-trade is still hampered by a lack of connecting infrastructure. Although a free trade area since 2000, ECOWAS still faces problems harmonizing legislation and rules for all members. Similar to ECOWAS, COMESA and SADC are not yet free trade areas in practice, especially as non-tariff barriers and divergence in rules and legislation still hinder intra-regional trade and integration.

- Non-tariff barriers of institutional, regulatory and infrastructural kinds are still a significant challenge in West, East and Southern Africa (ECOWAS, 2016b; Jephias and Loveness, 2014).
- Also, with regard to access to OECD country markets, non-tariff barriers significantly hamper trade (UNCTAD, 2016; European Commission, 2015; Asmah and Taiwo, 2010).

5.2 Country-specific effects of policies on the agro-food sector

5.2.1 Benin

We have explored the effect of trade and agricultural policies on domestic value added and trade using a visual analysis portraying the development of these indicators over time together with the implementation of relevant policy events. This analysis is rough, as it does not take into account several factors that may have played a role in changes in production and trade over time. Nonetheless, it may provide us with initial hints regarding whether effects are likely to be found in a more stringent causal analysis.

Value added in the agricultural sector in Benin, measured in real terms, has increased over time (Figure 28) in a quite steady manner overall. The increasing pattern accelerated between 1990 and 2010, which corresponds to the period of implementation of major trade and agricultural reforms. One needs to be cautious here about making causal conclusions, however, as this period also corresponds to rapid growth in the economy as a whole (Figure 29).

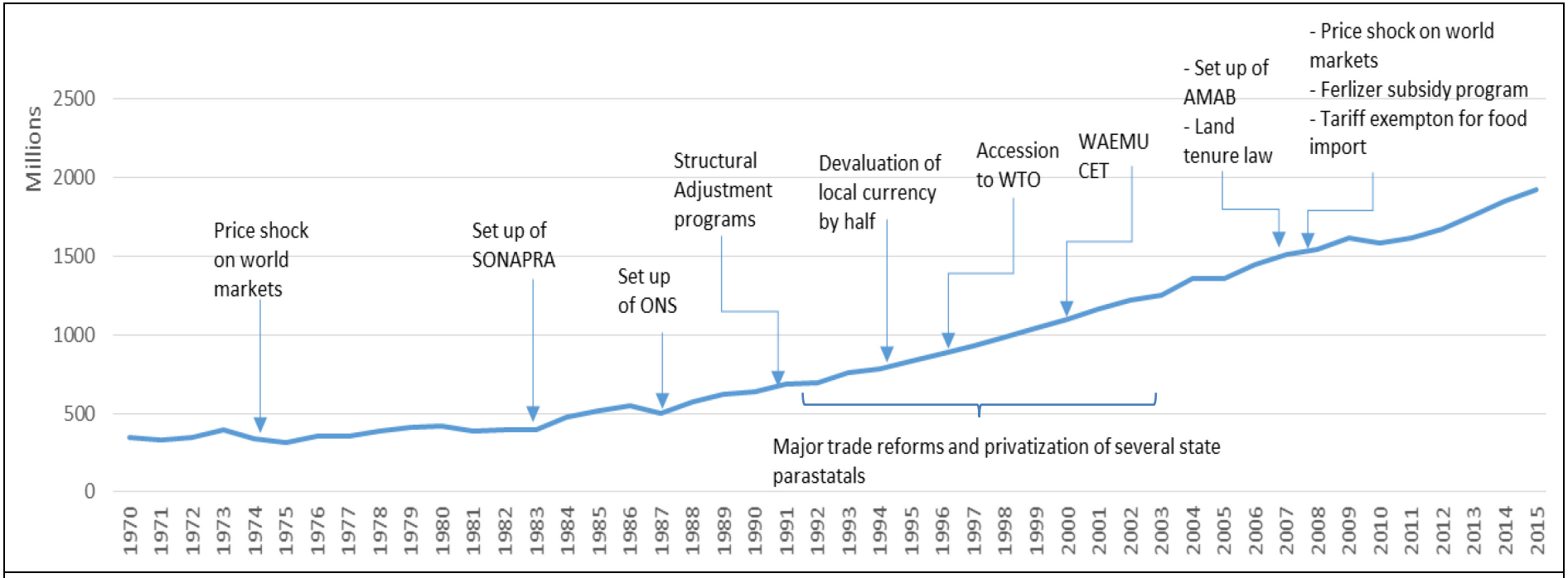


Figure 28: Agricultural value added in Benin set in relation to relevant policy events, 1970–2015 (in constant 2010 US$)

Source: World Bank (2016a), various sources for policy events.

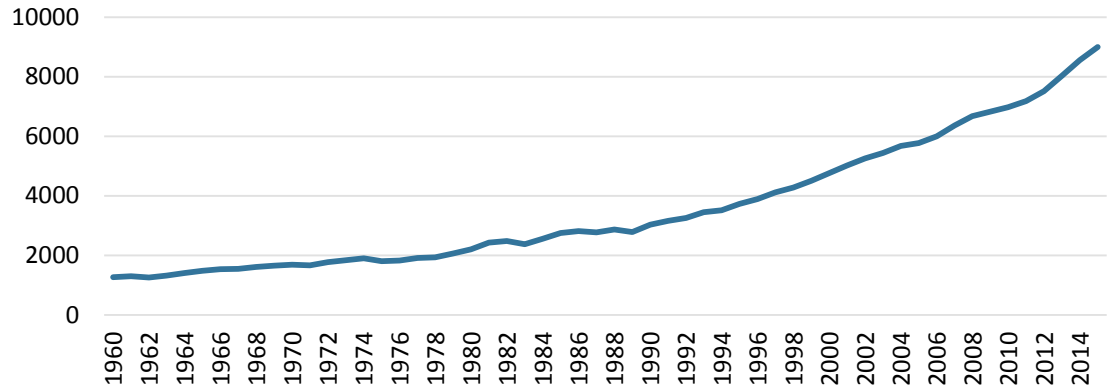


Figure 29: Benin's Gross Domestic Product, 1960–2015 (in 2010 million US$)

Source: World Bank (2016a).

Regarding the effect of reforms on trade in agro-food products, the signing of the ACP–EU agreement in 1975 (Lomé Agreement) seems to have had some positive effect on Benin's import and export of food products (Figure 30). In addition, the setup of SONAPRA in 1983 to organize the marketing of agricultural products, chiefly cotton, led to a rapid increase of real export value of the country's agricultural products. It is worth mentioning that the linear trends between 1975 and 1978 as well as between 1983 and 1991 are the result of our own imputations, since values for those years are not available in the database used. Figure 30 also seems to point to some effect the monetary devaluation in 1994 may have had, as export values increased right after 1994, while the value of imports, especially food, decreased slightly. The 2007 food price surge resulted in the increased value of food exports, while the export value of raw materials decreased, and the value of food imports actually decreased. Following the 2011 price surge on world markets, values for food imports, food exports and raw materials exports increased sharply.

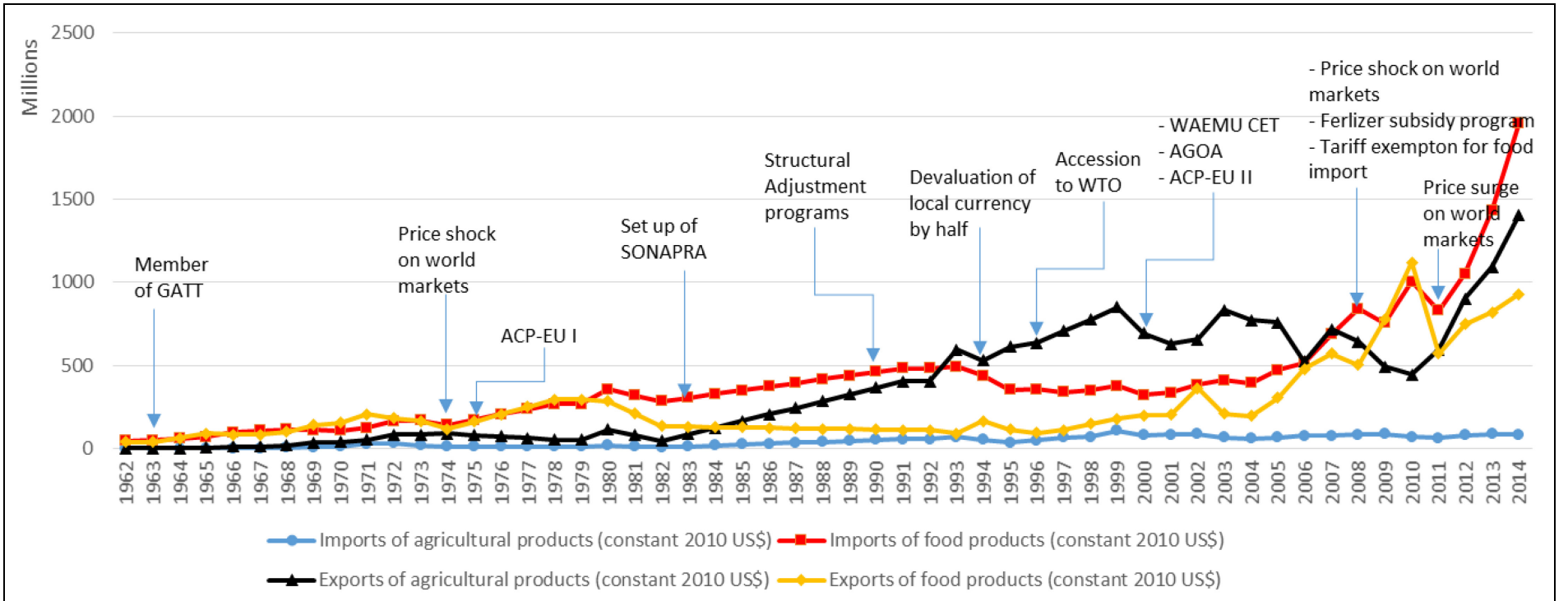


Figure 30: Benin's agro-food trade values set in relation to relevant policy events, 1962–2015 (in 2010 million US$)[a]

[a] Data for 1975–1978 and for 1983–1991 are linear interpolations.

Source: World Bank (2016a).

In terms of the impacts that trade and agricultural policies may have had on rural transformation and the economy as a whole, we can point to the structural change that took place after 1998, with the share of industrial output almost tripling (Figure 31). This change can be related to the liberalization of the cotton-ginning sector in 1998, with the private sector adding 225,000 tons of seed cotton-ginning capacity to an existing 335,000 tons by SONAPRA (WTO, 2010).

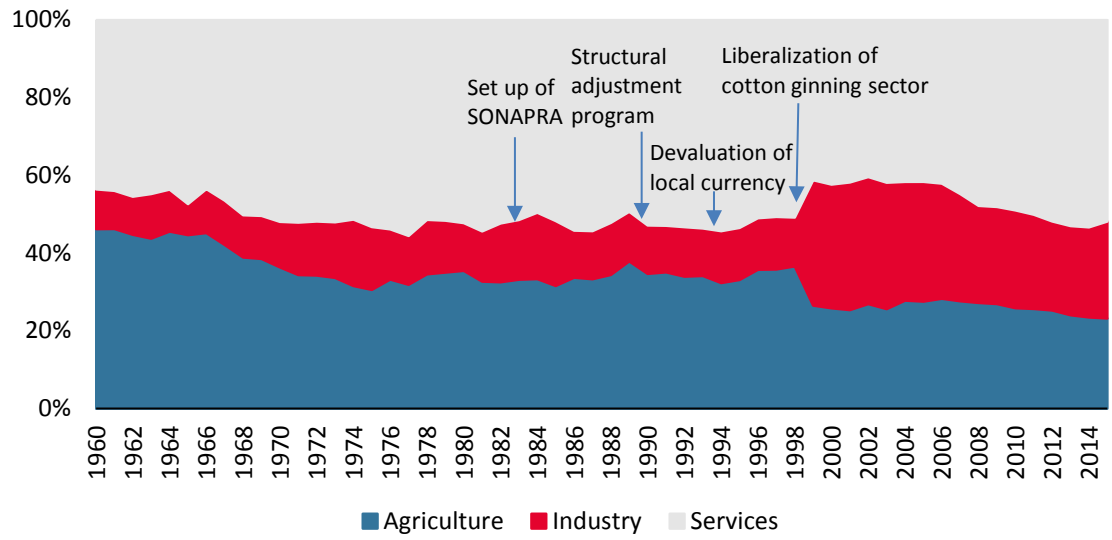


Figure 31: Benin's GDP composition, 1960–2014

Source: World Bank (2016a).

Regarding the effect of trade reforms and trade agreements on the importance of trade partners over time, the signing of the Cotonou agreement (ACP–EU) and of AGOA in 2000 did not reverse the declining trend of trade with high-income economies, both for imports and exports (see figures 20 and 22). The implementation of the WAEMU/ECOWAS CET in 2000 seems to have had a positive effect on Benin's exports to other sub-Saharan African countries, mostly to WAEMU/ECOWAS members. The effect on Benin's imports from other WAEMU/ECOWAS members exhibited an increase between 2000 and 2005 and then a decrease. For both imports and exports, a new important trade partner is Asia, mostly China. In 1997, Benin and China signed a trade cooperation agreement[9] but no comprehensive free trade agreement. The current share of China in Benin's trade may be the result of the increasing importance of China in world trade as well as being due to the trade agreement with China.

Looking specifically at the cotton sector, which has been the main target of most of Benin's agricultural policies, some correlation can be seen between the development of cotton production and different policies (Figure 32). After the introduction of improved cotton varieties in the 60's, production took off. Following the setup of SONAPRA to organize and centralize the value chain, the sector grew rapidly. The devaluation of the local currency also prompted a noticeable in-

9 http://www.china.org.cn/english/features/focac/183583.htm

crease in cotton production, which gained in competitiveness on the world markets. However, production has been erratic since 2004, despite an almost complete withdrawal of the state from the sector. According to Baffes (2007), the multitude of actors in the cotton sector following the withdrawal of the state parastatal SONAPRA has been causing numerous conflicts, resulting in frequent political interference and a dismaying performance of the sector.

Regarding the effect of major policy changes in other countries on cotton production in Benin, it is worth mentioning a simultaneity of the US Farm Bill in 2002 and a subsequent decline in production in Benin. In fact, under the 2002 Farm Bill, US cotton producers were eligible for direct payments and various price-guarantee programs influencing production incentives (Alston et al., 2007). But it is unlikely that the Farm Bill negatively affected world market prices compared to the situation before, as the Nominal Rate of Assistance to cotton declined substantially from 93% in 2000 to 77% in 2006 (Anderson and Nelgen, 2013).

The removal in August 2006 of US price-contingent subsidies that had established payments to cotton producers to bridge differences between domestic and world market prices did not seem to have a strong effect. This change in policy occurred following a WTO ruling in the settlement of the US–Upland Cotton case, between Brazil and the US (Lau et al., 2015). Nevertheless, the US Farm Bill of 2008 continued several subsidy programs for cotton producers, including direct payments and price-guarantee schemes, providing production incentives but also being trade distorting. Under the 2014 Farm Bill, most of the existing subsidy programs were replaced by insurance subsidies. However, the new program has also been evaluated as being as trade distorting as the previous, since it gives US cotton producers incentives to produce even when crop failures are likely and price volatility is high (Lau et al., 2015). Therefore, one should not expect any significant change in cotton production in Benin in response to that particular change in US agricultural policy.

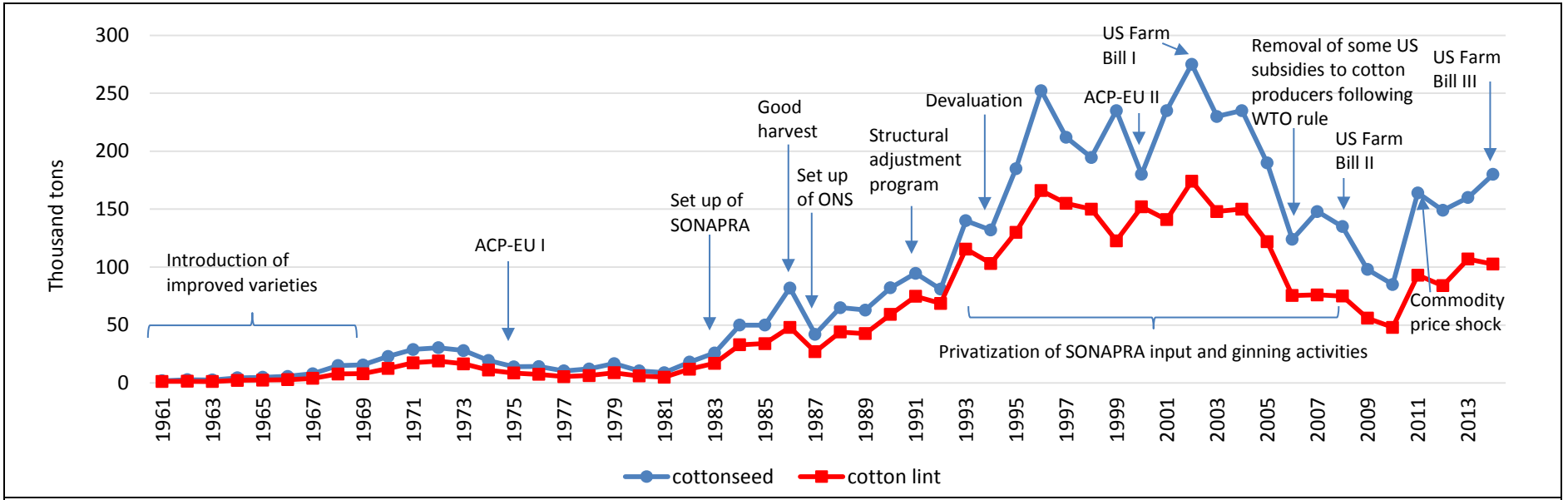


Figure 32: Cottonseed and cotton lint production in Benin and relevant policy events, 1961–2014

Source: FAO (2016).

5.2.2 Ethiopia

Following the overthrow of the socialist regime in 1991, the Ethiopian government implemented several reforms in the agricultural sector and promoted a market economy. Limitation of the role of government in agriculture, abolition of price controls and devaluation of the exchange rate from Birr 2 to Birr 5 against the US dollar in 1993 as well as the removal of all taxes and subsidies on major exports were some of the key agricultural policy reforms. Beginning in 2004, the government substantially increased investment in the agricultural sector, which may explain the strong surge in agricultural value added since then. Arguably, these investments were made possible by the end of the armed conflict with Eritrea and the reallocation of resources away from the military and towards productive sectors. The implementation of the productive Safety Net Programs in 2005, in conjunction with the World Food Program, has had a positive impact on agricultural households and on their productivity, as it has reduced their vulnerability through food and cash transfers and provided them with community-level infrastructure (WFP, 2012). Due to the relevance of the agricultural sector for the overall economic growth of the economy, since 1991 public spending on agriculture has increased significantly (Admassie, 2016).

With respect to the non-income development indicators that are related to agro-food sectors, Ethiopia has shown a remarkable achievement, especially in the decentralization of social service deliveries. More particularly, the number of rural extension workers has significantly increased: from 15,000 in 2000 to 45,000 in 2008, with the future objective of reaching 66,000 (GFRAS, 2012). Access to public infrastructure has also significantly improved, with access to improved water supply, measured in % of rural population, increasing from 13% in 1990 to 57% in 2015. Similarly, access to electricity, also measured in % of total rural population, increased from 0.1% in 1990 to 7.5% in 2012 (World Bank, 2016a).

The establishment of the Export Promotion Agency in 1998 and of the Ethiopian Commodity Exchange (ECX) in 2008 have been milestones in promoting export of coffee, flowers and other cash crops with a strong impact on farmer revenues. The ECX and the EPA are also involved in improving the quality of agricultural and food products to meet international standards for export and take advantage of trade agreements signed by Ethiopia, such as the ACP-EU agreement, the "Everything But Arms" agreement and the AGOA Act. The country's trade agreement with China has also had a positive effect on the agricultural sector and on the economy as a whole, given large Chinese investments in Ethiopia and growing trade relations between the two partners. These reforms and polices have affected agricultural value added (Figure 33) and, even more so, the economy in general (Figure 34).

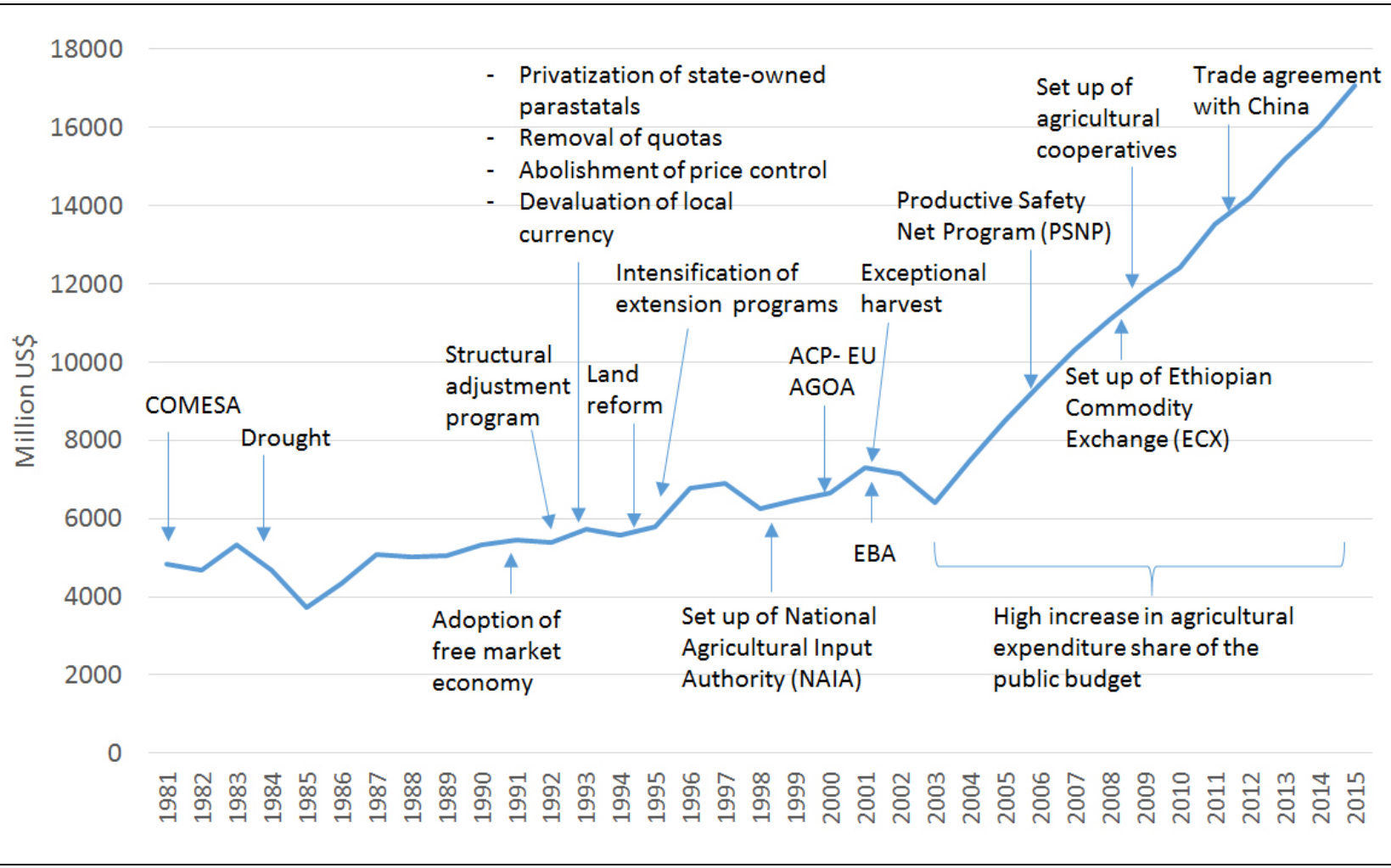


Figure 33: Ethiopian agricultural value added and relevant policy events, 1981–2015 (in constant 2010 US$)

Source: World Bank (2016a).

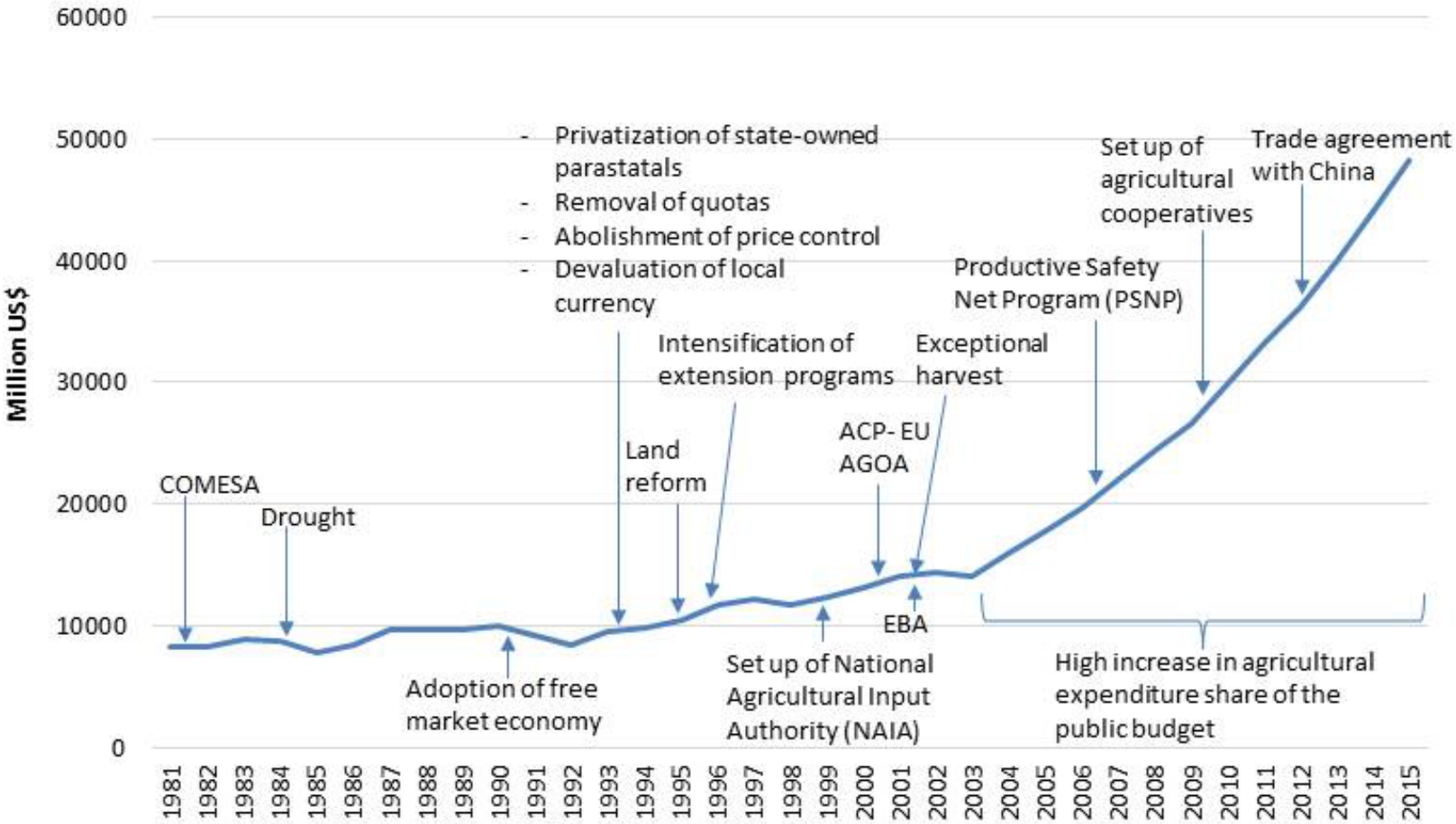


Figure 34: Ethiopian GDP and relevant policy events, 1981–2015 (in 2010 US$)

Source: World Bank (2016a).

Between 1992 and 2001, real GDP steadily increased by 6% on average per annum (AFRINT, 2003). This growth was mostly driven by the industry and service sectors, which have increased their shares in GDP over time (Figure 35). An orientation towards industry and services has been promoted by the national Growth and Transformation Plan (GTP), which focuses on building industrial cluster zones and promoting large-scale investments, particularly in the agro-industrial sector.

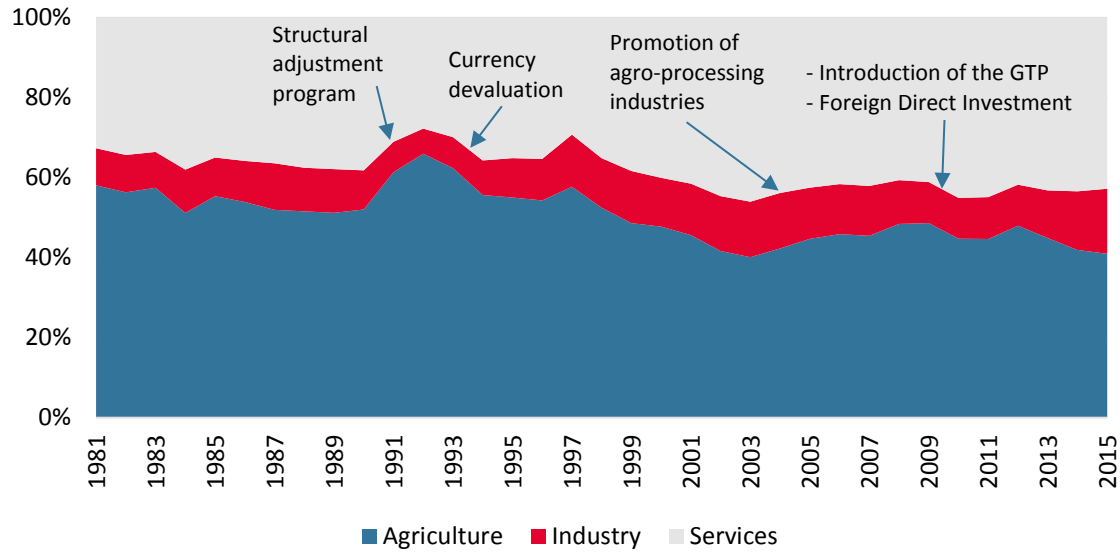


Figure 35: Ethiopian GDP composition, 1981–2015

Source: World Bank (2016a).

In order to increase productivity and curb the deterioration of land and organic matter, the Ethiopian government has implemented reforms towards the dissemination of improved agricultural inputs (chemical fertilizers, improved seeds and conservation practices). However, implementation of these technologies has not accommodated differences across agro-ecological zones and, hence, the adoption of these technologies remains low (Tadesse and Kassa, 2004). Consequently, the intensive cultivation of land and low use of improved agricultural inputs, coupled with rapidly increasing populations, has led to the deterioration of land and organic matter, particularly in the densely populated highland areas (Pender et al. 2001).

Agricultural products are Ethiopia's major export commodities, accounting for more than 90% of overall exports. During the 80's and early 90's, the performance of the export sector declined from 223.6 million US$ in 1988/89 to 154.2 million in 1991/92 (FAO, 2003). Policy reform following the adoption of structural adjustment programs and consecutive liberalization efforts seem to have increased the performance of the export sector, as export earnings had increased to 453.6 million US$ by 1994/95 (FAO, 2003). The contribution of agricultural and food export earnings to GDP increased from 1.5% in 1991/92 to 8.3% in 1994/95 (FAO, 2003). In addition to policy changes, the increase in export earnings as that time can be partially attributed to the 1994/95 increase in world coffee prices (MEDaC, 1999).

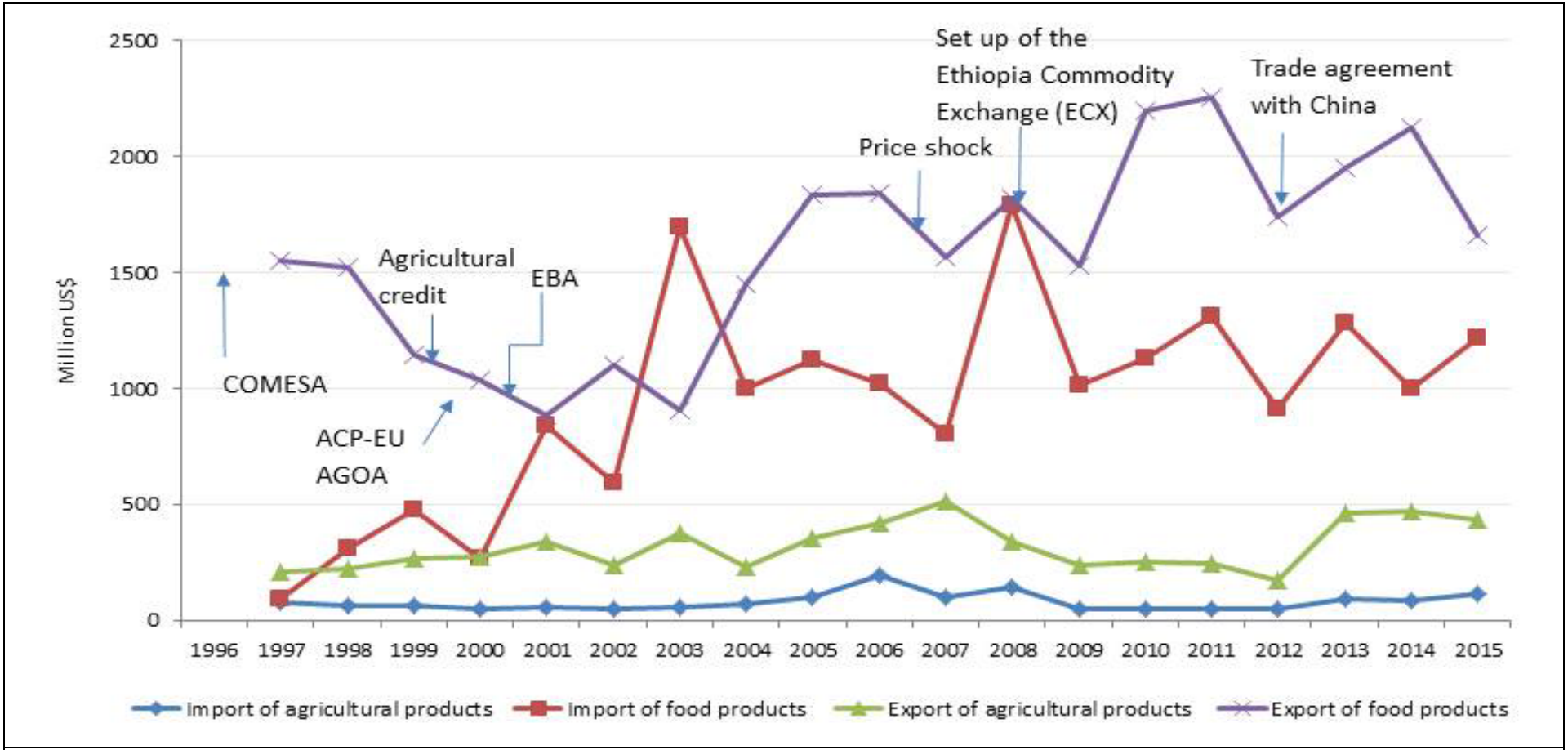


Figure 36: Ethiopian agro-food trade value change and relevant policy events, 1997–2015 (in constant 2011 US$)

Source: World Bank (2016a).

The value of both imports and exports of food products have increased since the year 2000, though not linearly. Increased export of food products may have been stimulated by the signing of the ACP–EU, AGOA and "Everything But Arms" agreements. In fact, in contrast to Benin, high-income regions remain the main destination for Ethiopia exports (see Figure 20).

With regard to the dairy sector, despite having the largest cattle population on the continent, Ethiopia is not a relevant dairy-exporting country, though small volumes of milk are exported to Somalia, while butter is exported to countries like Djibouti and South Africa, where it targets Ethiopian Diaspora consumers. During the period from 2005–2009, the country was actually a net importer of dairy products (Figure 37). The negative net trade in dairy products indicates an obvious shortage of domestic supply to meet respective demand.

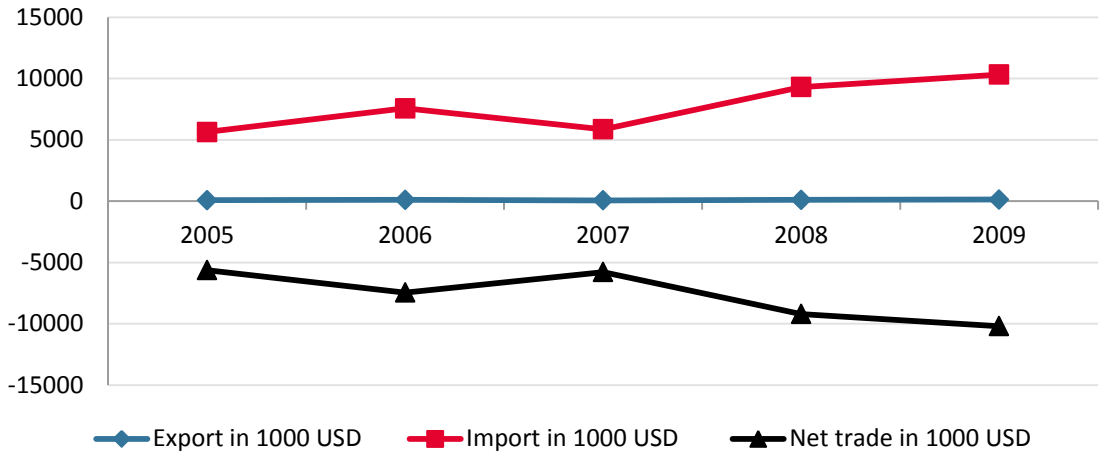


Figure 37: Ethiopian dairy product exports and imports, 2005–2009

Source: FAO (2011).

Several agricultural policies were put in place in order to further develop the dairy sector. Some of the policy tools that were implemented included the introduction of artificial insemination technology, new crossbreed and exotic cows as well as promotion and development of the agro-processing industry, with a focus on milk processing. Such initiatives were focused more on satisfying domestic demand than on exports.

The devaluation of the local currency in 1993 discouraged the import of milk and milk products (Haile, 2009). In addition, land tenure policy changes are also assumed to have affected the development of the dairy sector. Lack of a land market as well as general land shortages have limited the potential for smallholders to access adequate supplies of feed and forage. In addition, following the privatization of public farms and other policy changes encouraging private-sector development, several dairy processing industries and small businesses were established in order to supply dairy products for the growing demand in Addis Ababa and the surrounding semi-urban areas. Nevertheless, a state-owned enterprise remains the main player in the dairy sector. A study by Haile (2009) reveals that the emergence of these small-scale dairy processing enterprises has created competition and further stimulated the market for dairy products.

In order to take advantage of the large market potential for dairy products, small-scale dairy industries formed the Addis Ababa Dairy Producers Association, which has registered about 30 dairy-processing cooperative in Addis Ababa and the surrounding areas. Private-sector investment reform and amendments in cooperative regulations coupled with improvements in the promotion of feed and forages and veterinary services have also contributed to the growth of the dairy sector (Haile, 2009).

5.2.3 Zambia

Value added in the agricultural sector in Zambia, measured in real terms, has exhibited an upwards trend over time, with considerable dips resulting from various factors ranging from structural adjustment programs and regime changes to persistent drought and increasing fertilizer subsidies (Figure 38). Improved seed varieties of key agricultural crops such as maize were introduced to smallholders in the 1970's which, combined with large increases in agricultural land coming under cultivation, led to increased agricultural production. Zambia experienced rapid economic growth following the shift in political regime in the early 1990's, but this does not seem to correspond with a period of strong agricultural value addition (Figure 38).

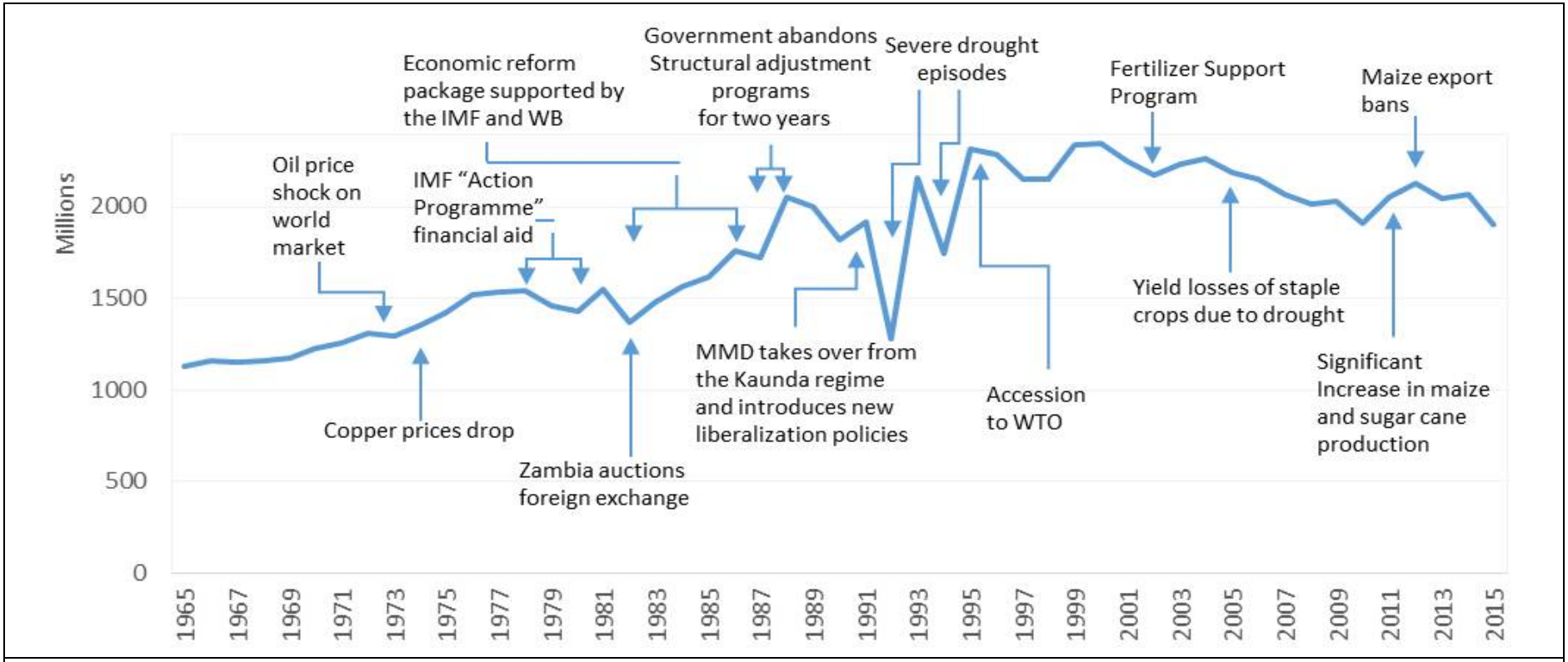


Figure 38: Agricultural value added in Zambia and relevant policy events, 1965–2015 (constant 2010 US$)

Source: World Bank (2016).

Looking at the overall rural–urban transformation and the economy in general in Zambia, we can see a reduction in the contribution of the agricultural sector in recent years (Figure 39). We can also see that, although the industrial sector was reduced to 30% in the late 1990's, it has recently grown closer to 40%. Meanwhile, the services sector continues to grow in importance. Seeing the absolute decline in agricultural value added and its decline as a share of the economy, it seems that the high budgetary outlays for agriculture in Zambia were successful for the level of maize production but not for the development of the agricultural sector as a whole.

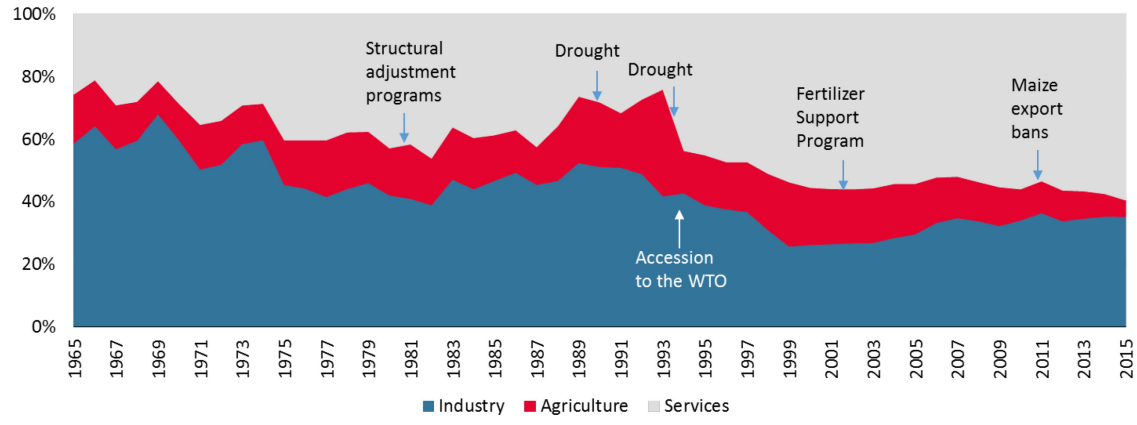


Figure 39: Zambian GDP composition, 1965–2015

Source: World Bank (2016a).

Focusing on the maize sector in Zambia, which has been the main focus of agricultural policies, some correlation can be found between increases in maize production and specific policies (Figure 40). Beginning in the early 1970's, the Government of Zambia introduced improved maize seed varieties to smallholders. Access to improved seeds and increases in cultivated land lead to increased maize production in the following years. While the government attempted to maintain funding of agricultural policies throughout the structural adjustment program, persistent inflation and poor economic growth might be contributing factors to low maize production from the late 1970's to the late 1980's. Consecutive years of persistent drought in the early 1990's lead to erratic maize yields, and despite heavy investment in fertilizer subsidies starting in the mid 1990's, maize production only began to take off in earnest at the start of the next decade.

Regarding the effect of reforms on trade for the agro-food products, the signing of the "Everything But Arms" agreement in 2001 with the EU seems to have had some positive effect on Zambia's import and export of food products (Figure 41). In addition, the amendments of the input support policies by the government in 2002, establishing the Fertilizer Support Program seem to have had a positive influence on agricultural exports. Figure 41 also displays a marked decrease in agricultural exports following a period of drought in 2005, with exports only recovering to their pre-drought levels in 2009.

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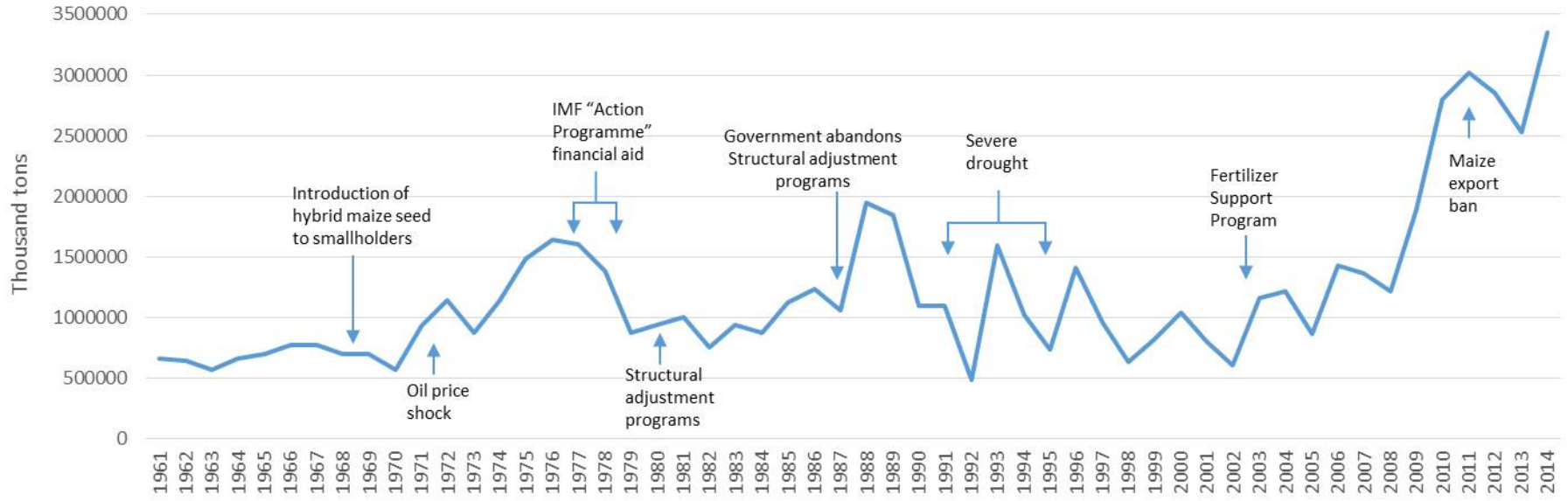

Figure 40: Zambian maize production and relevant policy events, 1961–2014

Source: FAO (2016).

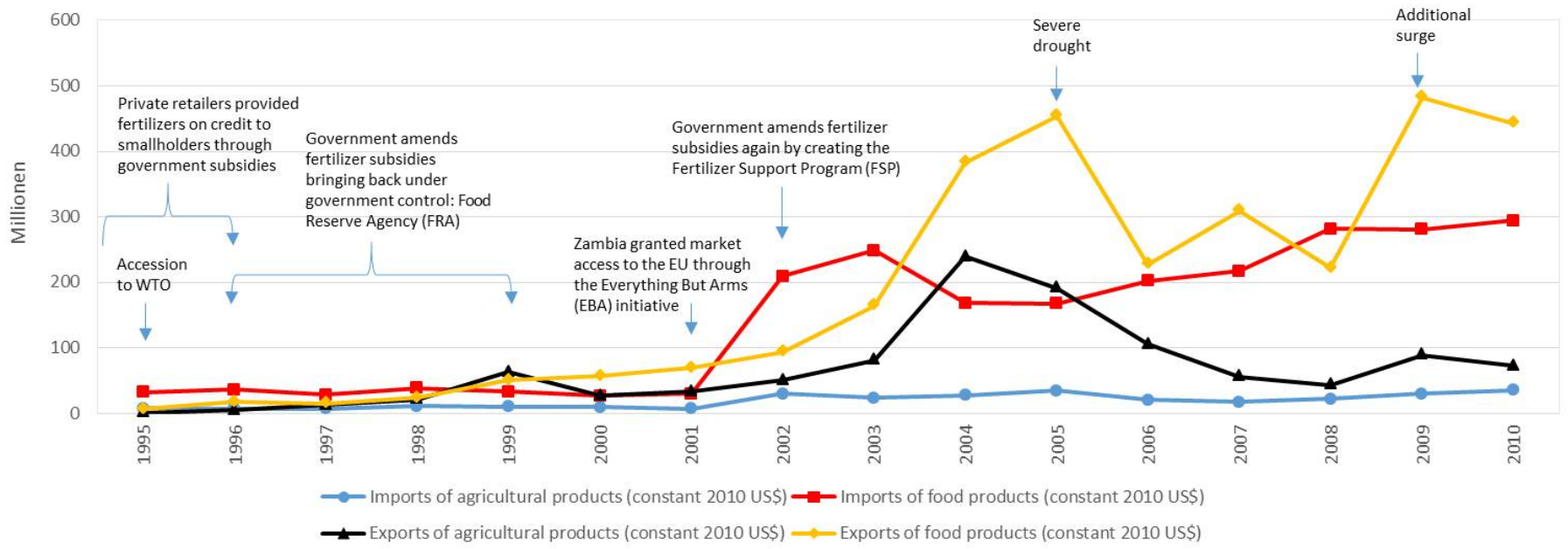

Figure 41: Zambian trade in agro-food products and relevant policy events, 1995–2010 (constant 2010 US$)

Source: World Bank (2016a).

6 Coherence of (agricultural) trade policies with domestic policies

The trade policies of a country are just one element of a whole set of policies, all of which provide the framework for its agricultural development. At the very least, such policies should not hamper other policy fields in achieving overarching political objectives. At best, however, they should support such objectives. In order to achieve this, there is a need for the development of coherent policy strategies comprising all policy fields relevant to rural development. For Benin, Ethiopia and Zambia we can observe the following in this vein:

Regarding the WTO framework,

- Benin and Zambia are WTO members. Due to their very high tariff bindings – far above currently applied tariffs – their WTO commitments do not seriously restrict any domestic policy objectives.
- The situation is different for Ethiopia, which is in the process of acceding to the WTO. In contrast to countries that became WTO members due to the Uruguay Round of trade negotiations of the General Agreement on Tariffs and Trade (GATT), new members are not free to set tariff bindings far above applied levels. Instead, negotiations with existing members are on a one-to-one basis and, as a result, tariff bindings are typically much lower (Evenett and Braga, 2014). Seeing the strong market-access opportunities Ethiopia now has to developed countries' markets, it may not be a priority of Ethiopia to join the WTO but, rather, maintain its domestic policy space the way it is.

Regarding Economic Partnership Agreements (EPA):

- Due to long transition periods and the option of exemption of a substantial share of sensitive products, the conclusion of EPAs provides only limited restrictions on domestic agricultural sector development.
- However, for some countries, tariff revenues form a substantial share of the public budget (see Figures 24 and 25), which would be heavily reduced with the full implementation of EPAs.
- On the other hand, benefits from EPAs may substantially differ among countries. Especially countries with LDC status (Benin and Ethiopia) already have free access to EU markets via the "Everything But Arms" initiative.
- Therefore, concluding an EPA may be less interesting for LDC countries than for those that do not have LDC status, such as Zambia.

Regarding regional trade agreements,

- The share of external trade with African trade partners in total trade has increased for Benin, Ethiopia and Zambia during recent decades (Figures20 and 22), especially for Benin but less so for Ethiopia.
- Nevertheless, there is still much potential for improved regional trade integration.

Regarding domestic-sector development,

- Trade liberalization is not per se an agricultural sector development policy. Thus, it needs to be complemented by domestic policies aimed at socially inclusive and sustainable agricultural-sector development.
- The case of trade liberalization in Benin is a good example: While substantial trade reforms have been implemented since 1990, the reduction of rural poverty and the decline in the Gini coefficient lag behind that of Ethiopia (Figures 10a, 11), which has invested more in domestic-sector development. Zambia is a different example: It invests a comparably large share of its public budget (9.5%) to support a relatively small agricultural sector (5.3% of GDP). However, due to its almost exclusive focus on input and output subsidies, the effect on broad and pro-poor sector development has been small.
- Establishing good framework conditions for domestic markets in terms of sanitary and phytosanitary standards is not only important for accessing other countries' markets but also to protect domestic markets against undue competition. For example, the import of frozen poultry meat increased fivefold from 2000 to 2007 in Benin (WTO, 2010) but often created health problems due to very limited enforcement of food safety standards.

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